



December 1983
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AIRFIX

magazine

for modellers



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NOVO 1/72

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1/72

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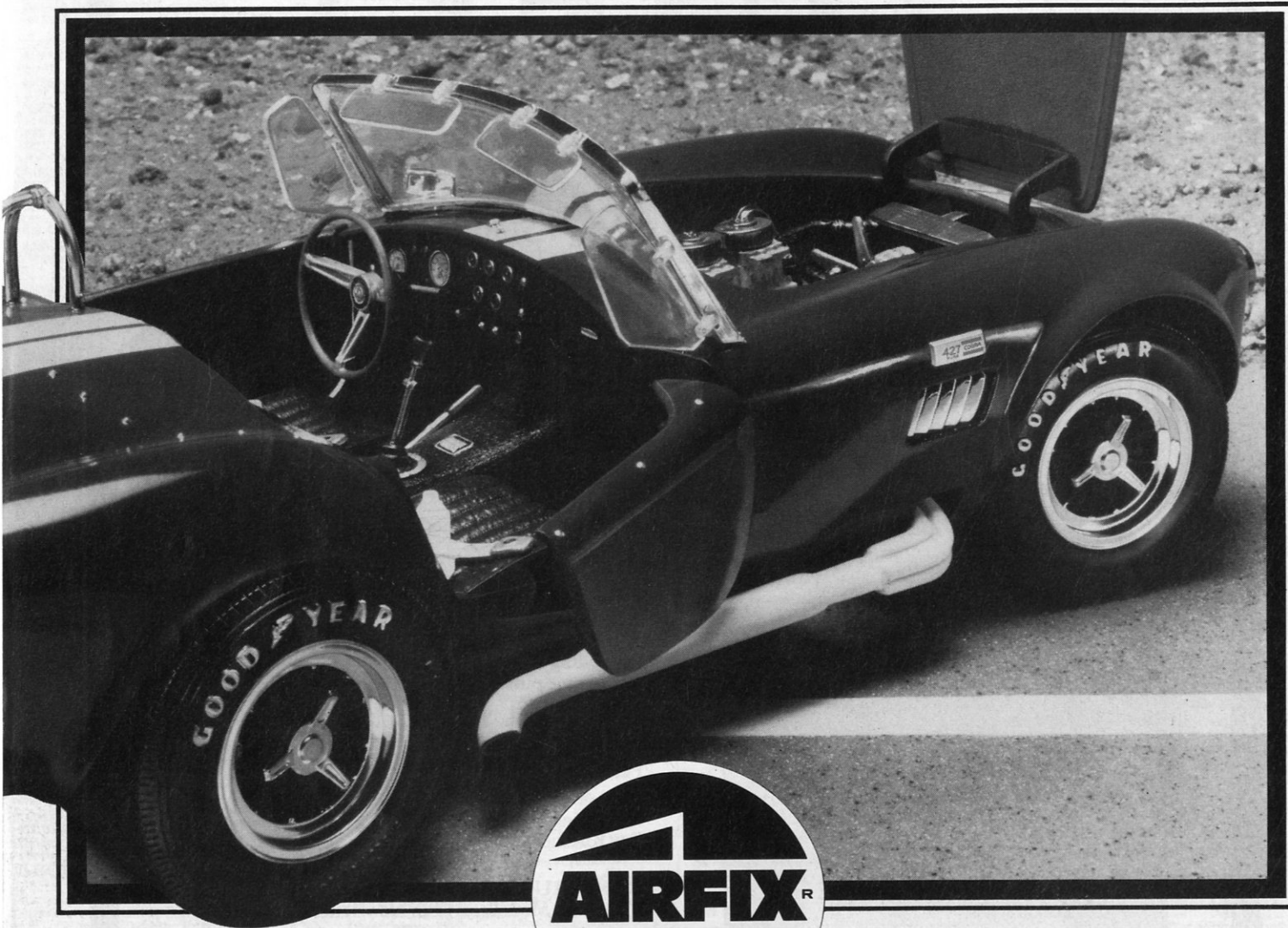
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Editor's Notebook

From time to time we receive letters from modellers, usually resident in quite large towns, complaining that they find it very difficult to buy kits and accessories locally. Department Stores and toy shops obviously cater for modellers but they tend to stock large, expensive kits from the big manufacturers and, moreover, their staff tend to know very little about the products they are supposed to be selling.

All this seems to be an argument in favour of the small model shops. But, comes the cry from the readers' letters, where are the small model shops? It is a sign, presumably, of the recession that their numbers have been drastically reduced over the last few years. In the early 1970s you could be almost certain that any town would possess a specialist shop, staffed by enthusiasts (usually keen to offer advice to beginners in the hobby) and stocking an intelligent selection of kits, from the cheapest introductory packs to the most expensive 'Masterpiece Replicas'. Nowadays these shops are becoming more and more rare.

In a few places excellent compromises have been struck. The Beatties shops are mini department stores but they stock a wide range of kits and have well-trained staff who can answer the questions that the average modeller is liable to ask about his



Inside Beattie's Holborn super store.

purchase. But what about the enthusiast living in a country village with little opportunity to get to his nearest city?

The answer, I think, lies in the grapevine. A good shop will always win a reputation, simply through people telling their friends about it. If there's a small model shop near you that you think worthwhile write and tell us about it. We intend to feature some of these in a new monthly 'Modelshop Corner' — anything that will help to mitigate the depressing flow of letters from people who 'would like to make models if only there were somewhere they could buy them'.

This is the last issue of AIRFIX MAGAZINE for 1983 so could I take this opportunity of wishing all our readers and advertisers a very happy Christmas. And remember — an AIRFIX MAGAZINE Annual Subscription still makes an excellent Christmas present!

Contributions for future issues are always welcome on any subject connected with the modelling world. These should be accompanied by an SAE (for the return of unsuitable manuscripts) and sent to the editorial address.

David Taylor.

Behind the scenes with the Red Arrows

Starting soon, AIRFIX will be running an exciting (and rewarding) Red Arrows competition. This takes the form of a quiz, incorporating six simple questions about the RED ARROWS display team. When did they begin their aerobatic displays? When did they first display with the Hawk? A special tie-break question (rather more difficult than these two) is intended to sort out the sheep from the goats.

How do you enter? Just pick up a leaflet at your model shop — although you'll need one AIRFIX logo cut from the pack of any kit to send with your completed answers.

First prize is your chance to be an 'AIRFIX V.I.P.' for a day, to go behind the scenes and meet the famous R.A.F. Display Team. In addition you will receive AIRFIX products of your choice to the value of £50. As well as this there are five 2nd prizes of AIRFIX products to the value of £20 and ten 3rd prizes of kits to the value of £10.

Now turn to our special CONSTRUCTOR centre section on the RED ARROWS. It might give you a few tips. . .

'AERO JUMBLE'

An 'Aero Jumble' — the first event of its type to be held in Europe — took place at the Fleet Air Arm Museum, Yeovil on Saturday

1st October. Nearly 4,000 people attended the sale, despite continuous rain, and went home laden with aviation items of all kinds from the 94 stalls.

Among interesting aviation items appearing at this year's show were the flying jacket belonging to Gregory Boyington, the U.S. Marine's top-scoring fighter pilot in the Pacific in World War Two, two aero engines from World War I, a working 8 foot by 6 foot model of Gatwick Airport and Luftwaffe Uniforms and aircraft parts.

All the stallholders reported high levels of sales and have asked for another 'Aero Jumble' as soon as possible, so the 1984 event has been brought forward to Saturday 7th April.

The Miniature Armoured Fighting Vehicles Association Exhibition

On Saturday, September 24th, the Miniature Armoured Fighting Vehicles Association held their annual competition and exhibition at the Air Training Corps Headquarters, Wimbledon. Although this group represents the Home Counties including Surrey and Essex, in fact some of the members come from considerably further, one for this occasion even making the journey from Swindon!

The show was very large and very comprehensive and the wide number of

Classes ensured that competitors of all standards of workmanship had a fair chance, for, although the Association can point out members capable of producing models of museum standard, all tastes and periods of progress are catered for.

Models on show ranged from a 1/36th scale of a flack tower to ultra miniatures so that while the former was voted 'Best in the Show', another prize winner had entered a Humber car that was little longer than one inch, but despite this fact, it was fully detailed.

A new Class on this occasion was that devoted to Army Co-operation, and this, although attracting a small number of entries compared to the longer established ones, will plainly receive increasing support.

A well-organised show ended at about 5pm with the presentation of cups and other awards by Chris Ellis. Peter Cooksley was present to present the first Army Co-operation prize.

Fuller details of membership are available on receipt of an SAE by Bob Blann, 128 Brudenell Road, London SW17.

For many, the focal point of the day was the special theme exhibition which this year was devoted to the Canadian contribution to the WW2 manufacture of armoured vehicles, and of special interest here was a special display of tank hull construction.



For Valour

AIRFIX MAGAZINE was delighted to attend a recent Private View at the R.A.F. Club in Piccadilly of 'For Valour' — K. B. Hancock's portrayal of the incident, during a raid on Nuremberg in 1944, which earned Cyril Barton and the R.A.F. Halifax Squadron their only Victoria Cross.

Cyril Barton was a captain and pilot of a Halifax detailed to attack Nuremberg on the night of 30th March 1944. 70 miles short of the target the aircraft was attacked by a Junkers JU88 and an engine was damaged when a Messerschmitt 210 joined the fight. The bomber's machine guns were damaged and the gunners were unable to return the fire. In the confusion a signal was misinterpreted and the navigator, air bomber and wireless operator left the aircraft by parachute.

Amazingly, the Halifax delivered its bomb-load and limped homewards, until — before a suitable landing place could be found — the port engine stopped. The aircraft was now too low to be abandoned successfully. Pilot Officer Barton therefore ordered the three remaining members of

his crew to take up their crash stations. The aircraft finally crashed and Pilot Officer Barton lost his life.

Mr Hancock's portrayal of the incident (a photograph of which is reproduced above) would, it transpires, not have been possible without AIRFIX. A complete Halifax does not exist, with the exception of 'S For Sugar' which was hauled out of a Norwegian fjord and is now under reconstruction. Consequently, Mr Hancock purchased several AIRFIX Halifax kits which, he told us, were invaluable in determining the accuracy of details and perspective.

Guests at the Private View were also able to examine Cyril Barton's Victoria Cross, his log-book and other memorabilia. 'For Valour' was painted for the benefit of the R.A.F. Benevolent Fund and R.A.F. Bomber Command Museum at Hendon, both of which are badly in need of funds.

Prints of the painting are available from: Excelsior Fine Art, Unit 27, Nechells House, Richard Street, Birmingham B7 4AA.

**NEXT MONTH
IN**

AIRFIX
magazine
for modellers

**Mr Hancock's
Models
The Halifax and
Junkers JU88**

Croydon Airport Society

You have finished your latest kit of a military aircraft and are tired of service markings. Something different would be civil livery, but where do you go for reference data?

One possible source is the CROYDON AIRPORT SOCIETY. This is an expanding body which, although concentrating on the preservation of the former Airport of London, is also the organisation involved in the negotiations which have resulted in the proposed Museum to be established under the sponsorship of the Guardian Royal Exchange Group, as announced a short while back.

Visits for members to connected places of interest and access to a wide spectrum of historical data, photographs and models make this an ideal organisation for keen modellers, whether resident in the immediate vicinity or not. Some of these are certainly far-flung, for the membership extends to the Commonwealth. Contact for details, the Acting Secretary at 44 Le May Avenue, London SE12 9SU.

Evening meetings and a Christmas so-

cial event are announced from time to time, and these nearly always take place at the site of the old civil aerodrome in Surrey for those who can get along.

Here it is possible to hear speakers connected with the earlier days of civil flying and often discuss their halcyon days and elicit helpful information on markings and details, all useful to the model builder. A bookstall and receipt of a magazine full of information are also among membership privileges.

Friends of the R.A.F. Museum

Readers who are interested in the wider aspects of aviation, both current and older types are probably already familiar with the sight of either a Chevanne or Caravan emblazoned with the name of the R.A.F. Museum at many British air shows.

This is the publicity section of the Friends of the R.A.F. Museum who enjoy lectures, films, visits to places of aeronautical interest as part of their membership; but probably most prized of all is the opportunity for suitably skilled and qualified 'Friends' actually to work on the preservation of

exhibits either for the R.A.F. Museum, the Battle of Britain Museum or the Bomber Command Museum.

It is hoped in the very near future that a similar body will be established as part of the new Manchester Air and Space Museum, but in the meantime, those interested in joining the Hendon organisation should contact the Secretary, Friends of the R.A.F. Museum at Hendon, NW9 5LL enclosing a self-addressed, stamped envelope.

Production of a current Membership Card will also admit holders without payment to the two sections of the Museum for which a charge is made, but by joining one has the satisfaction of knowing that the Committee of the Friends Society from time to time also assists the Museum in various endeavours such as fund-raising.

A similar organisation, although not connected with the foregoing, exists under the title of the Friends of the Fleet Air Arm Museum, and details about this should be sought with the aid of an SAE to their Membership Secretary addressed to the Museum at Yeovilton, Somerset.

British Aerospace Harrier GR Mk 3

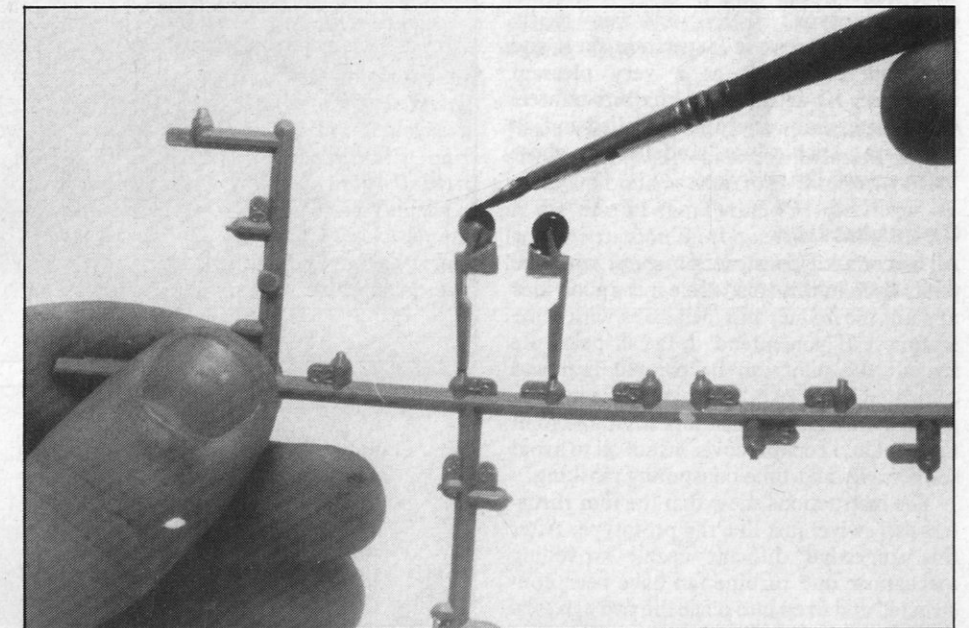
The Prototype

The British Aerospace Harrier was a major engineering and technical breakthrough for the British aviation manufacturers in being the first ever fixed wing V/STOL (vertical short take-off and landing) strike fighter.

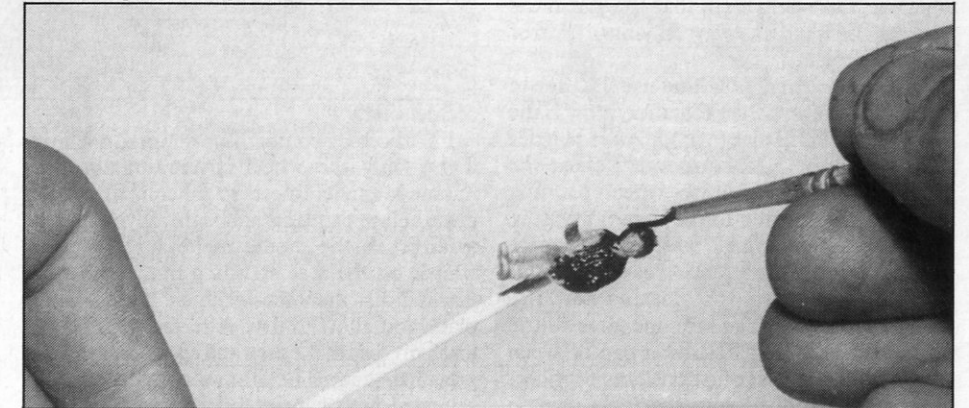
Naturally an aircraft with the long range and speed advantages of a jet fighter, combined with the no fuss, quick take-off, hover and landing capacity of a helicopter, could indeed be a formidable fighting machine. Extensive, vulnerable and expensive airforce runway facilities could be dispensed with, for in wartime a Harrier can quite easily be kept fully operational with only a fuel tanker, a couple of support vehicles and a modest forest clearing as a base.

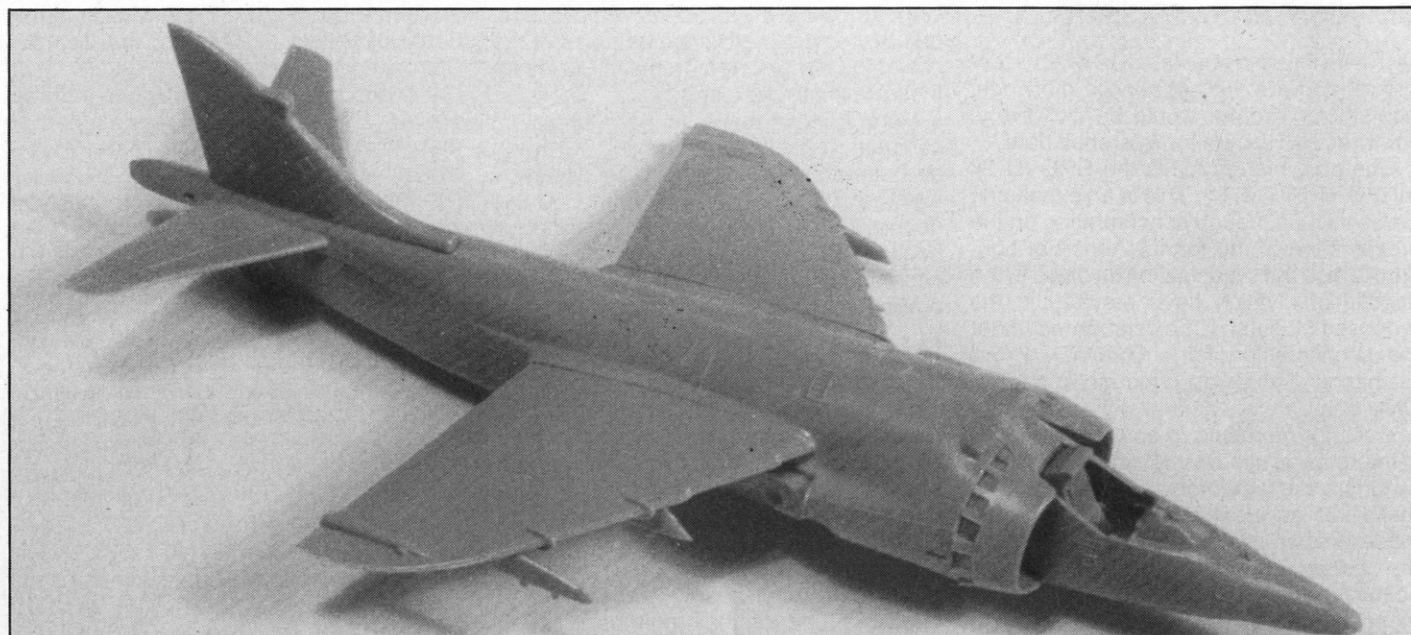
The Harriers are extremely manoeuvrable, not only in take off and landing but also in mid flight. This is made possible by the four jet thrusters (two on each side of the aircraft) which can swivel so that they are directed to the rear for forward flight or straight down for vertical flight. This enables the pilots in a hostile situation to perform a manoeuvre known as 'VIFFING'.

An enemy fighter spots a Harrier and proceeds to go in for the kill, suddenly the Harrier disappears upwards from view. To add to the surprise the hapless aggressor finds a second or so later that his tail is being shot off by the Harrier that he was just following! What the Harrier pilot has done is to direct the nozzles downward in mid flight thus converting a forward thrust into a downward thrust. The Harrier shoots skywards while the enemy pilot in a conventionally powered jet can only continue forward. When our hero has cleared the other aircraft he can drop down into the offensive position.



Paint small parts on the sprue.





The model before painting and filling.

This trick proved its validity as an aid to combat in the recent Falklands war where the aircraft depicted by this kit, namely the Harrier GR Mk 3, augmented the Sea Harrier fleet in the South Atlantic, providing fighter protection and close ground support action.

The Model

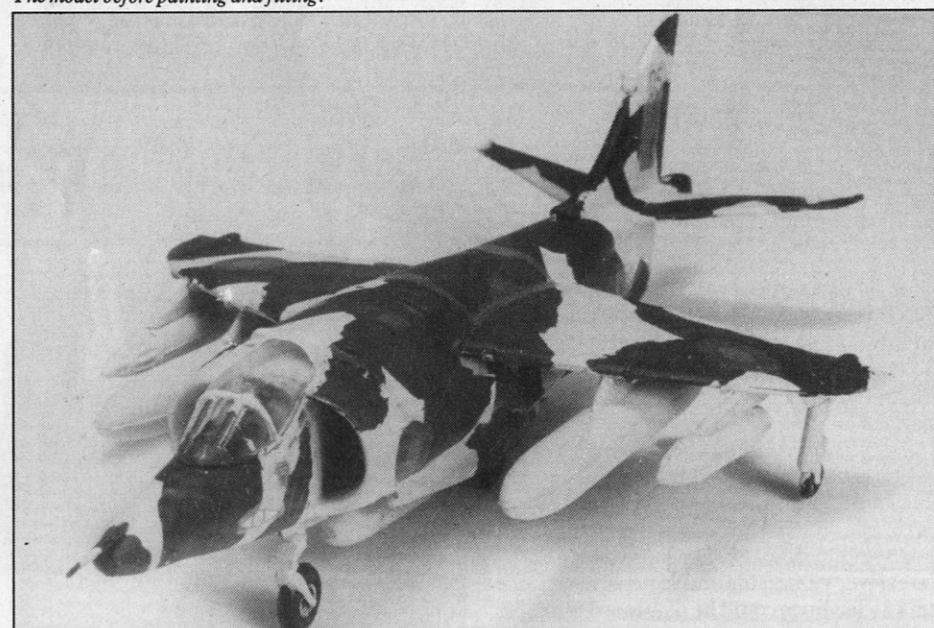
This 97 piece kit is a very good representation of the prototype. All the pieces were clearly marked in the concise instruction sheet and moulding flash was at a very pleasant minimum. As with most Airfix kits transfers of the waterslide variety are supplied and, in this case, enable the modeller to choose between two livery styles.

Construction

All aircraft kit construction starts with the pilot. Even in this small scale it is a good idea to paint the helmet and facial area with some accuracy. If you intend to brush paint the aircraft the pilot can be painted first and cemented into place, but if you, like myself, prefer to use an airbrush it is advisable to fit the pilot and cockpit cover last of all to avoid some tricky and time consuming masking.

The instructions show that the four thrusters can swivel just like the prototype. After this somewhat difficult nozzle swivelling mechanism and turbine fan have been constructed and fixed into place the two halves of the body can be offered up and cemented together. The slight seam that appears at the join can be sanded away leaving a mirror smooth surface.

While the cement is setting use the time to cement the bomb halves together. Now is the time to decide whether to model your Harrier in mid flight or on the ground. I chose the ground level approach so wheel painting (while still connected to the sprue) began in earnest. On go the wings, which are two piece moulds so the same attention as given to the fuselage is in order. It's amazing how two pieces appear to merge into one after a little careful sanding! The resulting gap between the wings and fuselage just cried out for filler, so some was applied very sparingly using a



The finished model.



scalpel blade.

For those of you who have opted for mid flight, only the wheel covers, bombs and missile launchers need to be cemented into place before painting can begin. If you intend to airbrush the model make sure that the wheels on the free standing model are well masked off, then spray the air intakes matt black and allow to dry. After an hour or so, mask off the intake area and spray on the slate grey main coat. The camouflage affect is best achieved with a paint brush, although it is

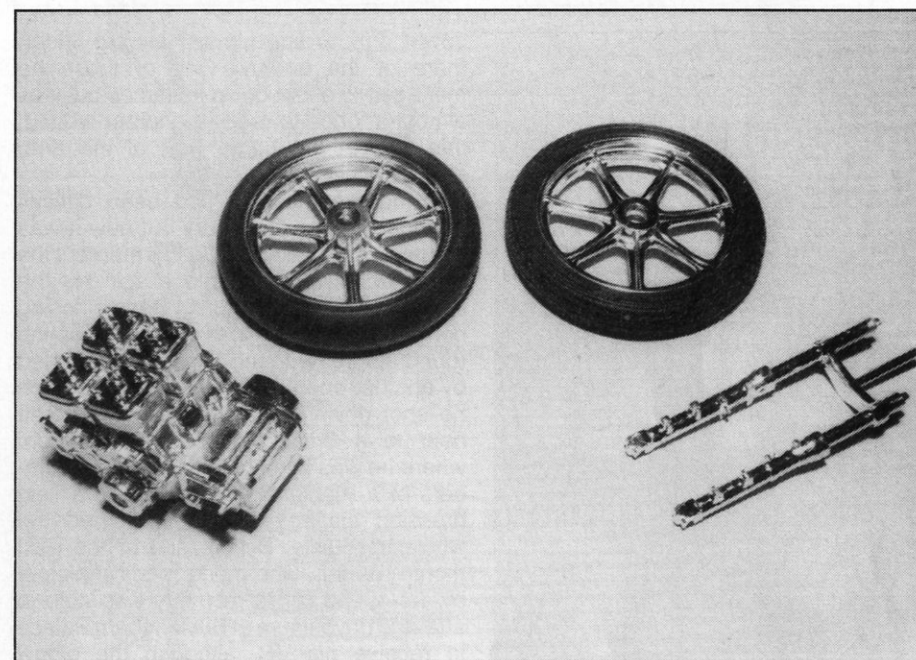
possible to use an airbrush if you want to involve yourself in some tricky masking problems.

After the transfers are fixed in place it is a good idea to cover them and the surrounding area with matt varnish to protect them. Lastly, if you wish to portray your Harrier with service grime the desired effect can be achieved by using the 'dry brush' method around the thrusters and missile launchers using dirty black paint.

Tim Laughton.

Matchbox Suzuki RGA-500

by Fred Game



To the left we have the completed crankcase, cylinder-block and head assembly, and to the right the front forks. The wheel mouldings are one piece and feature rubber effect replicas of the Michelin racing tyres.

Whilst there are individual World Championships for motorcycles with a range of engine sizes, it is the 500cc bikes that attract the heaviest degree of manufacturer participation, the highest paid riders and the most prominent media coverage.

Like their four-wheeled counterparts, the successful machines receive heavy sponsorship, their fairings and the riders' leathers normally being covered with brand logos and trade marks giving recognition to those companies whose promotional budgets help to support the team. Unlike present day Grand Prix drivers, the bikers' clothing is highly visible as they shift position on their machines through corners and rise up in the saddle to use their bodies as air brakes when approaching slower parts of the course.

Despite the high level of technology which the factories employ in an attempt to achieve success, racing motorcycle design has witnessed a more subtle evolution than cars over the past ten years. Superficially the present machines do not look a great deal different to their counterparts of the previous decade, but this is largely because the engineers and designers have less areas open to individual interpretation and are unable to indulge themselves in — for example — the complex aerodynamics and 'ground effect' principles so beloved by the four-wheeled brigade. Bikes change their attitude to the road surface radically and, although they've been tried, wings and similar appendages have shown little advantage over a clean, simple shape that has a small frontal area and makes best use of the engine's power.

The RGA-500 Suzuki, as reproduced by

pot, the machine has a top speed of over 288km/h thanks to the aforementioned unit's power output of 115BHP plus at 10,500rpm. A tubular twin-loop frame is connected to the cast magnesium wheels (the rear one of which carries a 14/70 x 18 Michelin slick, although the front cover still has a tread pattern) via gas filled shock absorbers and forks, and the main dimensions are: wheelbase 54.4in, overall length 79in, saddle height 31.2in, and a ground clearance of 6.6in. A fuel tank capacity of seven gallons is sufficient for most Grand Prix; fuel stops have yet to find their way into the bike world, as have tyre changes. Unless some radical design changes occur, they're not likely to either!

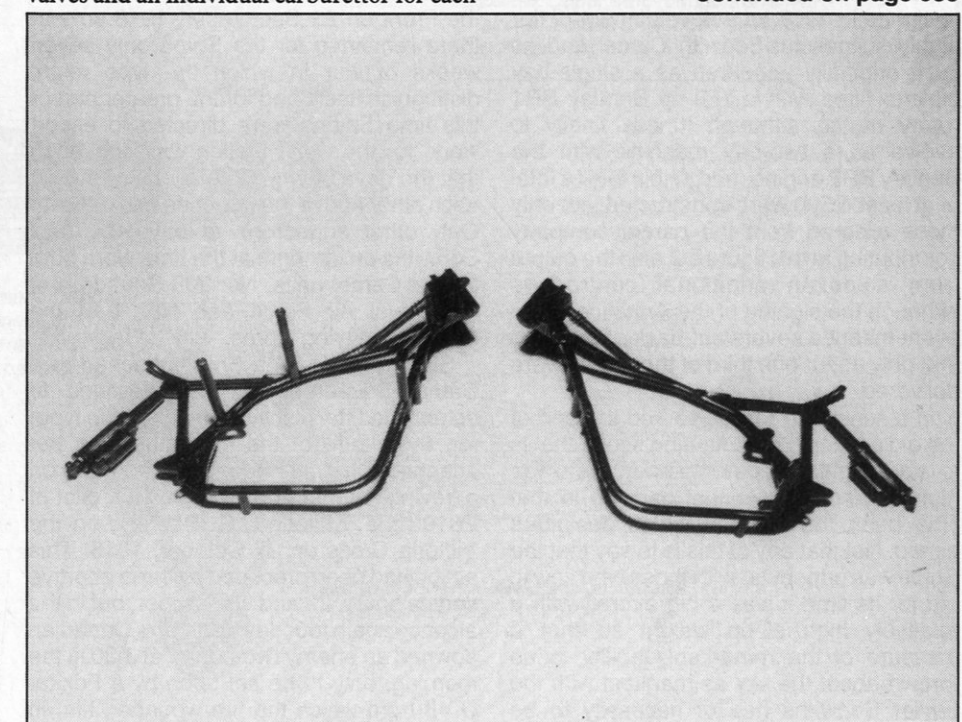
Two of Suzuki's championships, in 1976 and '77, were achieved by Barry Sheene who had joined the Croydon based team in 1973. Built in Hamamatsu, Japan, factory policy is to have the bikes run by various national equipes and Texoca-Heron Team Suzuki operates under the direct control of the UK importers, Suzuki (GB) Limited.

The Matchbox kit represents the RGA-500 a ridden to victory by Sheene in the 1977 Paul Ricard Grand Prix.

The Model

Just because they only have two wheels, large scale motorcycle kits are not necessarily twice as easy to build as their four-wheeled (or six, in the case of the Tyroll P34) brethren. A large instruction sheet opens out to reveal no less than forty-one assembly stages and is

Continued on page 685



Having been temporarily assembled to ensure that the cross tubes line up correctly; here are the main frame components split apart and awaiting the fitment of the engine.

COMBAT COLOURS

No. 23 The Sopwith Snipe

Peter G. Cooksley



Snipe F2336 of No. 208 Squadron after 1918. Note the small spinner, overhung ailerons and natural metal finish to the cowling and nose panels below the grey doped area.

(Author's collection)

Since this is the final part of this series, it is appropriate that the machine chosen should be the last British single-seater to enter service as a fighter with the Royal Air Force before the end of the war of 1914-18.

As its appearance clearly indicates it was designed in 1917 as a development of the highly successful Sopwith Camel and as such originally appeared as a single-bay biplane fitted with a 150-hp Bentley BR1 rotary motor, although it was finally to evolve as a two-bay machine with the Bentley BR2 engine, and in this form a total of at least 4,500 were constructed, not only those ordered from the parent company contributing to this figure but also the output from a dozen additional contractors although the signing of the Armistice in the event meant a severe cut-back of these so that only about one third of the orders were delivered.

In a sense the Snipe marked the end of the old concept of the fighting scout, that is to say a lightly-loaded biplane which was highly manoeuvrable that had, up to that time been the ideal at which designers aimed. Not that any of this is to say that the Snipe was unpopular with those who flew it, but for its time it was a big aircraft with a relatively high all-up weight so that a measure of the remarkably ability to be thrown about the sky as manifest with the earlier Sopwiths had of necessity to be sacrificed. In addition the power plant of the Snipe represented the limit of development

possible with such a motor so that there would be no more machines thus fitted to fly with the RAF again.

First of the new machines to be delivered to an operational unit were to go to No. 43 Squadron which made its first sortie over the Front on 23 September, 1918 so that there remained for the Snipe only seven weeks of war in which the type might distinguish itself, and for the greater part of this time Snipes were directed to escort work, for the war situation was now such that the days of large formations opposing each other above the trenches had passed. Only other squadrons to have the new Sopwiths on strength at the time were both former Camel units, No. 208 Squadron of the Royal Air Force and No. 4 of the Australian Flying Corps.

Strangely, it was a Snipe attached to a Camel Squadron that was destined to establish the place in history for the type, for, flying one of the new machines but attached to No. 201 Squadron, seemingly on a 'roving commission' it was as the pilot of E8102 that Major W. G. Barker won the Victoria Cross on 27 October, 1918. This action had been preceded by three abortive sorties on 21, 22 and 23 October, but in the air once again four days later, the Canadian downed an enemy two-seater at 8.30 in the morning, only to be set upon by a Fokker D.VII from which the fire wounded him in the thigh.

From this engagement, Barker spun

down, only to find himself among fifteen more of the enemy. One of these he managed to shoot down in flames but was almost at once to receive another wound, this time in the upper part of the arm, smashing his elbow.

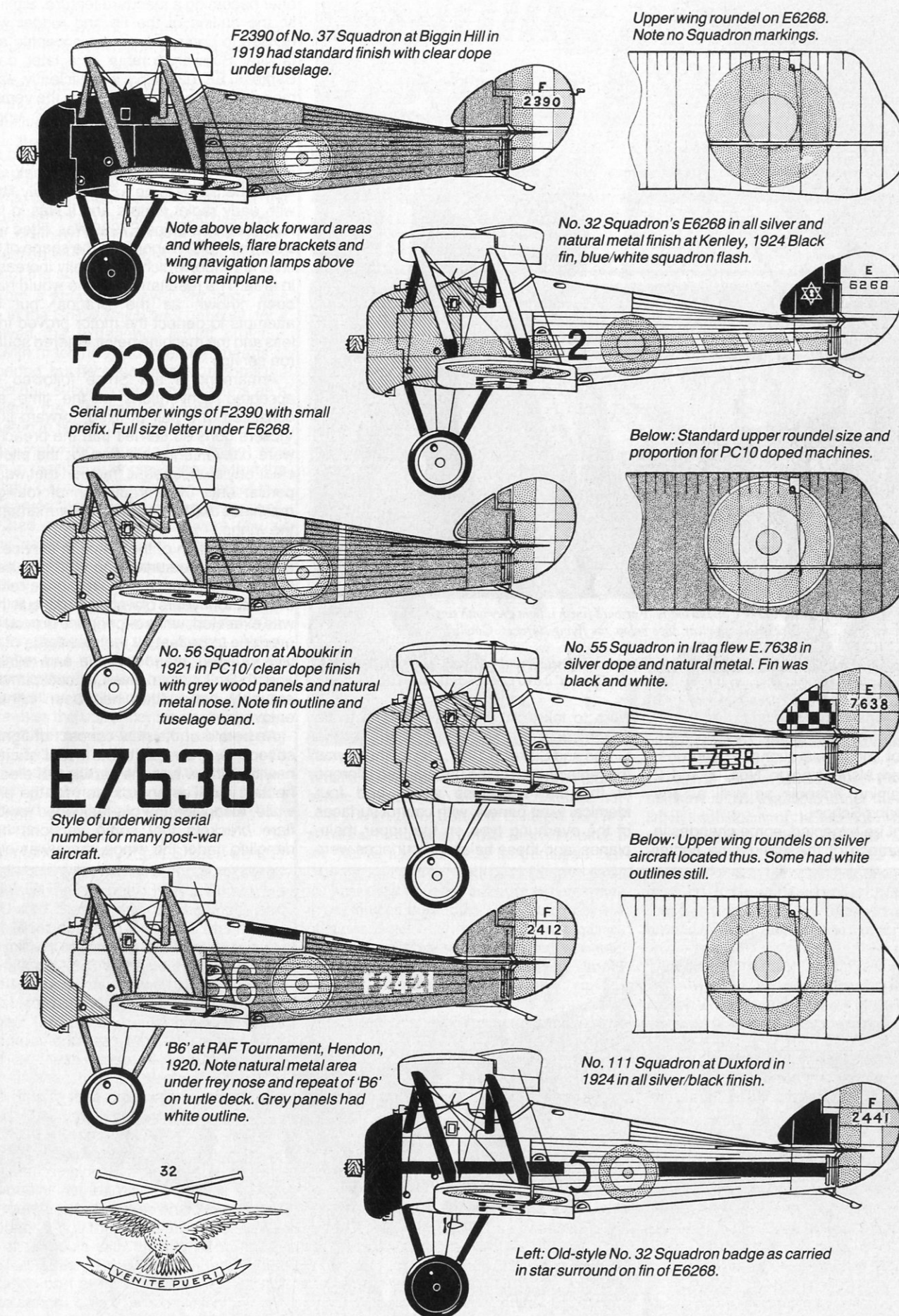
Flying the machine had been difficult enough with the first injury but now it was virtually impossible, now at this moment the Snipe again dropped into a spin for the same reason as before, Barker losing consciousness from loss of blood. Coming round again, he found himself surrounded by another enemy formation, one of which he shot down before landing his aircraft near to a British balloon position from where he was immediately taken by members of a Highland Infantry unit to a field dressing station who had watched the whole spectacle. By the end of the next month, Barker, who made medical history by the speed of his recovery was able to attend an investiture at Buckingham Palace to receive his VC, although the elbow continued to suffer from the effects of the explosive bullet into the opening months of 1919. Meanwhile, the semi-crashed Snipe, its ignition system destroyed in the fight, was salvaged, and the fuselage is still preserved in Canada.

Had the war continued, there were plans to equip Home Defence squadrons with the Snipe and also send others to sea as replacement for the ship-board Sopwith 2F.1 Camels. In addition, a long-range variant to be designated the Mk.Ia was being developed which was intended to be used for escorting bombers of the RAF's Independent Air Force.

However, although none of these versions ever entered service, the original Snipe was to continue in service long enough after the end of the war that it adopted the new colour scheme of aluminium dope and was also the first type to have the new colourful squadron markings although production was to cease early in 1919.

Even so, the world after WW1 was sufficiently unstable for the type to be involved in several theatres of war so that the Snipes of Nos 25 and 56 Squadrons were to be used in action during 1922 in Turkey at the time of the Chanak crisis which was sufficiently grave for at least one newspaper at the time to headline an edition with the words 'War Almost Inevitable'. No. 1 Squadron also flew the type operationally in Iraq.

Yet although the use of Snipes was, by the standards of the years which had recently passed, restricted; it was the standard fighter of the time. This being so, it naturally follows that a two-seat version



F2390 of No. 37 Squadron at Biggin Hill in 1919 had standard finish with clear dope under fuselage.

Upper wing roundel on E6268. Note no Squadron markings.

Note above black forward areas and wheels, flare brackets and wing navigation lamps above lower mainplane.

No. 32 Squadron's E6268 in all silver and natural metal finish at Kenley, 1924 Black fin, blue/white squadron flash.

F2390

Serial number wings of F2390 with small prefix. Full size letter under E6268.

Below: Standard upper roundel size and proportion for PC10 doped machines.

No. 56 Squadron at Aboukir in 1921 in PC10/ clear dope finish with grey wood panels and natural metal nose. Note fin outline and fuselage band.

No. 55 Squadron in Iraq flew E.7638 in silver dope and natural metal. Fin was black and white.

E7638

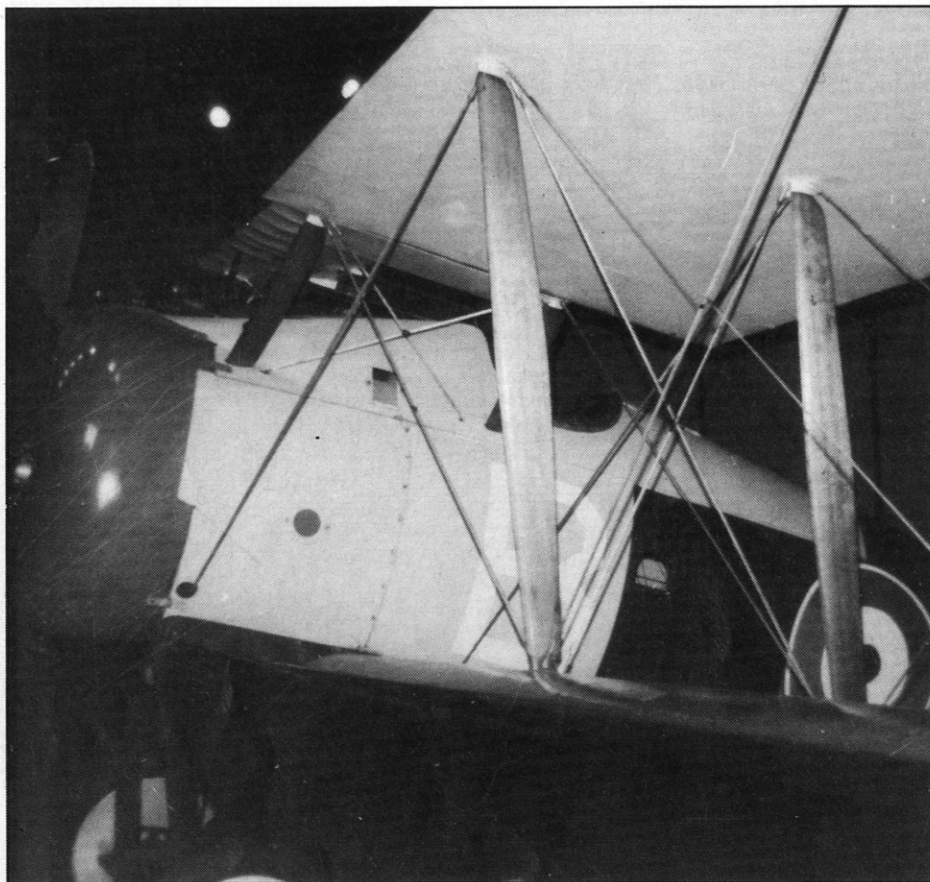
Style of underwing serial number for many post-war aircraft.

Below: Upper wing roundels on silver aircraft located thus. Some had white outlines still.

'B6' at RAF Tournament, Hendon, 1920. Note natural metal area under grey nose and repeat of 'B6' on turtle deck. Grey panels had white outline.

No. 111 Squadron at Duxford in 1924 in all silver/black finish.

Left: Old-style No. 32 Squadron badge as carried in star surround on fin of E6268.



Above: E6938, the Snipe preserved in Canada today. Forward finish is light grey with single letter 'B' in white, while the main colour is PC10 above with clear dope below the flying surfaces. Cowling is red.

Below: This Snipe, mainly finished silver, had a mid-blue forward fuselage with red edges, as was the line round the rear portion, plus edge to tail surfaces. Inscribed 'Leicester-Canada' it was paid for by the people of the former city to be presented abroad. Note rudder device.

should be evolved, fitted with dual control, and one or two of these were on the strength of most operational squadrons; this version also going to Nos. 1 and 2 Flying Training Schools as well as the Central Flying School.

As might be expected, some changes in the appearance of this handsome fighter

were to take place before it began to be superseded by such machines as the Grebe and Siskin in 1924. One of these was the replacement of the unbalanced ailerons of the first machines which had four identical wing panels, with control surfaces of the overhung type on the upper mainplanes, and these balanced surfaces were

retrospectively fitted to the earlier deliveries after becoming a standard feature. Similarly, the outline of the fin and rudder was revised to present the more accepted and familiar Sopwith contour at a later date, Barker's E8102 being a sufficiently early model to lack both this shape to the vertical tail surfaces and the balanced upper ailerons.

Mindful that the Bentley represented the ultimate in rotary development, it naturally fell to the Snipe to be experimentally fitted with early radial motors and it was in this manner that a Snipe E7990 was fitted with a 360-hp ABC Dragonfly in the shape of the fin and rudder which was finally increased in area. The resultant machine would have been known as the Dragon, but the attempts to perfect the motor proved fruitless and the machine never entered squadron service.

Armament of the Snipe followed the accepted conventions of the time and consisted of a pair of fixed, forward-firing Vickers guns so carried that the breaches were conveniently at hand for the pilot to clear any stoppages, a tradition that was to persist until the introduction of four-gun machines that had a part of the armament in the wings.

The retention of the Snipe in service for so long was no surprise, on the one hand Great Britain was finding economic recovery after four years of war more difficult than was expected, while experience proved the machine to be fast by the standards of the time, rugged, manoeuvrable and reliable, and the pilot was given a cockpit view arguably better than had been hitherto enjoyed.

As herald of the new concept of fighter, so recently grown out of the 'scout' stage, a new departure was the carriage of electric heating facilities and oxygen for the pilot, while, alongside the old-fashioned looking flare brackets that some versions had, dangling under the wings, there was elec-

tric lighting on wingtips and rudder, where it seemed to be something of an afterthought.

It will have been obvious from the foregoing remarks concerning dope finishes, that the majority of Snipes were given a coat of khaki-green PC10 in the manner of most British war-time machines, and this colour only slowly changed to the new silver finish, there was, however, one other shade that was carried, this being the distinctly redder colour bestowed by PC12 by means of its high red ochre content. It seems certain that some at least of the Snipes serving in the East would have been thus finished for the dope gave better protection to the fabric from the harmful rays of the sun.

From a structural view-point there was little in the Snipe which was unusual, for it followed the experience which previous Sopwith machines had been the means of gathering, but here too, at least in detail the Snipe had such 'modern' innovations as a tailplane the incidence of which could be adjusted in flight, plus a steerable tail skid.

The motor too, reflected much that was fresh in the field of engineering, so that the Bentley, based on the French Clerget that had served the majority of Camels so well, now had alloy cylinders that were shrunk onto steel liners.

It seemed at one time as if the Snipe might also represent a step forward in the field of armaments for, although it was equipped to carry a small number of 20-lb Cooper bombs for use against trench systems and the like in the style of all fighters of the day, there had originally been plans to fit an additional third gun, A Lewis to fire over the upper centre-section, much in the same manner as the top armament of the SE5a. However, this was abandoned due to the weight penalty and the difficulties of aiming a weapon, and the Snipe finally appeared with the conventional two-Vickers guns.

One, and possibly more Snipes went to Russia, and a very small number appeared on the civil register both in Great Britain and the United States, and for the most part these were doped in the same manner as their military counterparts with civil registration in large black characters against white panels. However, as with most aircraft, particularly at this transitional period in RAF history, the Snipe could present some strange anomalies. Perhaps among the older of these was the fact that some silver-finished machines retained the thin white rims to their national markings even though the dark finish with which it was supposed to contrast had now vanished. An example of this was No. 1 Squadron's E8249 at Hinaidi, Iraq in 1926. This was individually numbered '3' forward of the side roundel which lacked an outline, but on the upper wings there was still to be seen a pair of roundels with the traditional white rim! Navigation lights were fitted, those indicating port and starboard being on the upper wings, unlike some which carried them above the lower mainplanes and as on all these machines the rudder stripes appeared with the red at the trailing edge.

Building and Rigging a Vacform Biplane

By Ray Rimell

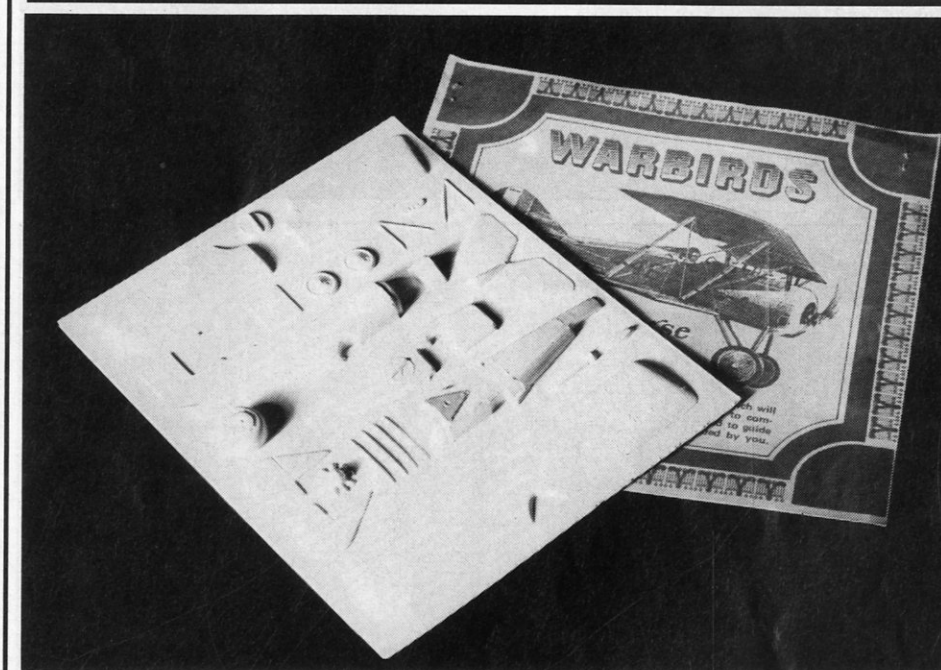


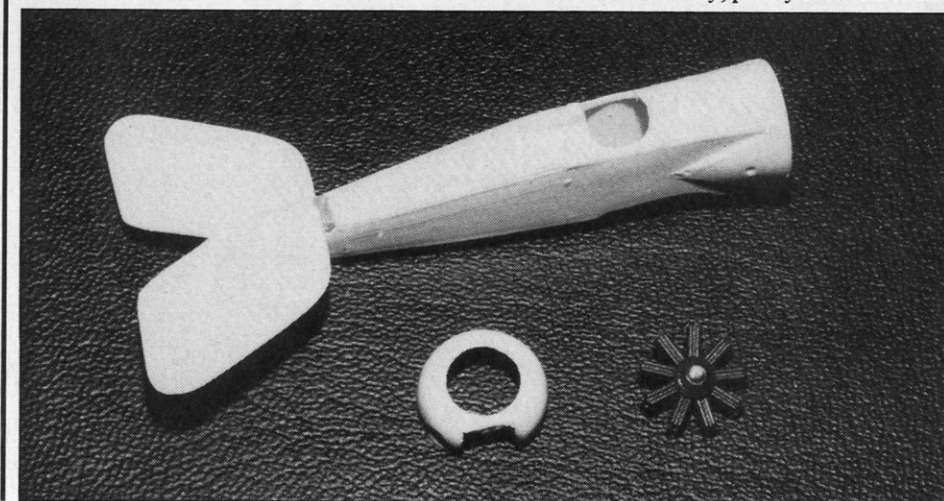
Photo 1

What's that? You've never built a vacform before — ever? Too difficult? Of course not — if you go about things in the right way it's as easy as building any other form of model. I see you're not convinced so perhaps I can pass on a few hints and tips. Firstly, most vacforms are not that difficult to construct, depending on the subject, providing they are of reasonable quality in the first place. Obviously if they're new to you, I would advise going for something relatively simple such as the Thomas Mirse S-4C under discussion here.

This little World War One US training machine is tiell available under the Warbirds label, a subsidiary of the well-known RARE-planes, a top-rate one-man-band called Gordon Stevens! The S-4C initiated the WW1 series which also includes the Sopwith Snipe, Pfalz DIII/IIIa and Junkers D1. The American Scout is quite easy to construct and is blessed with an even simpler colour scheme.

Making a start

Following the kit's own instructions for a trouble-free assembly; plenty of sketches and



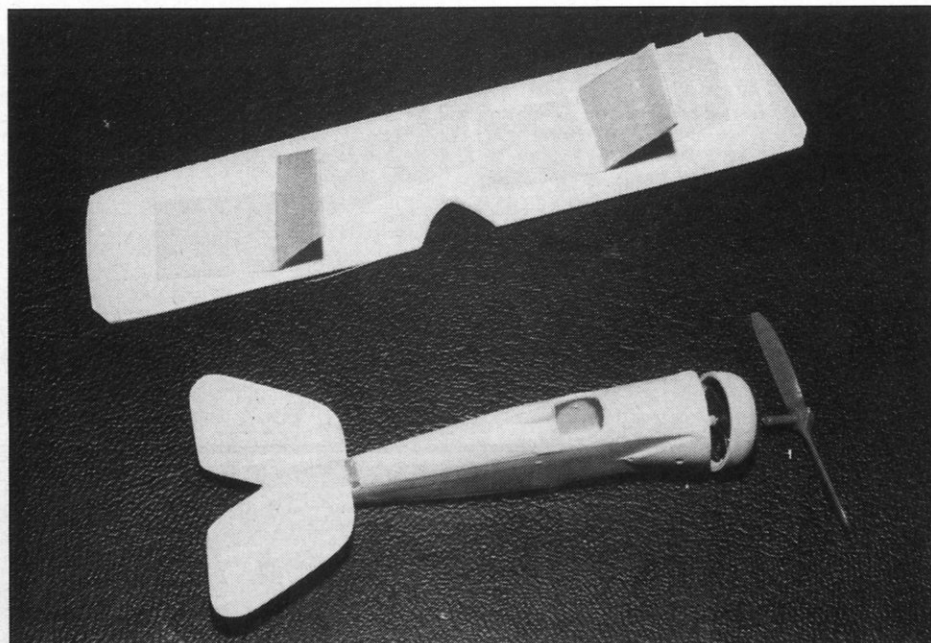


Photo 3 ▲

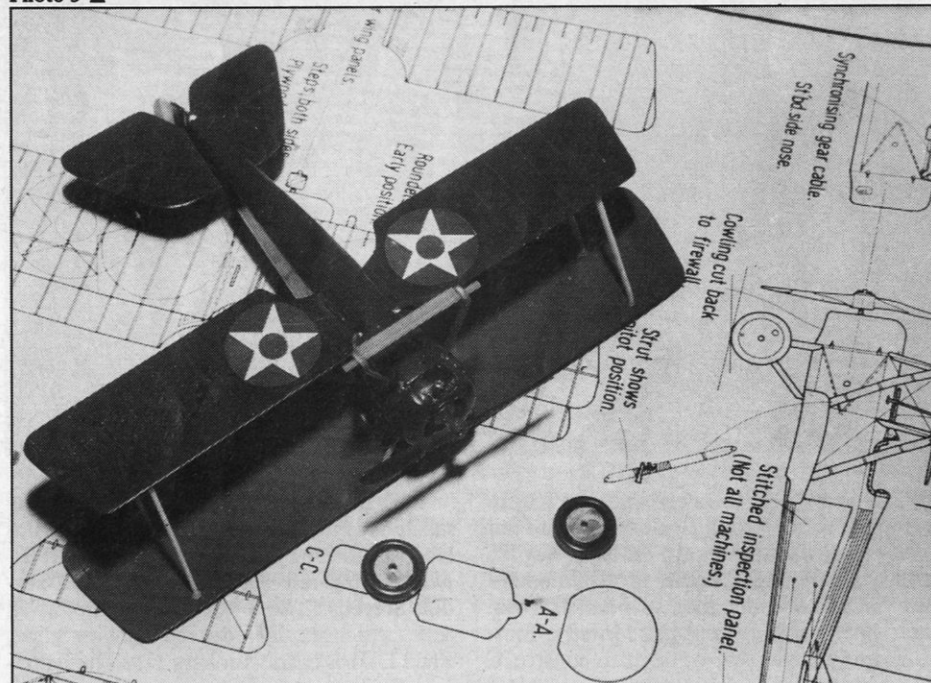


Photo 5 ▲

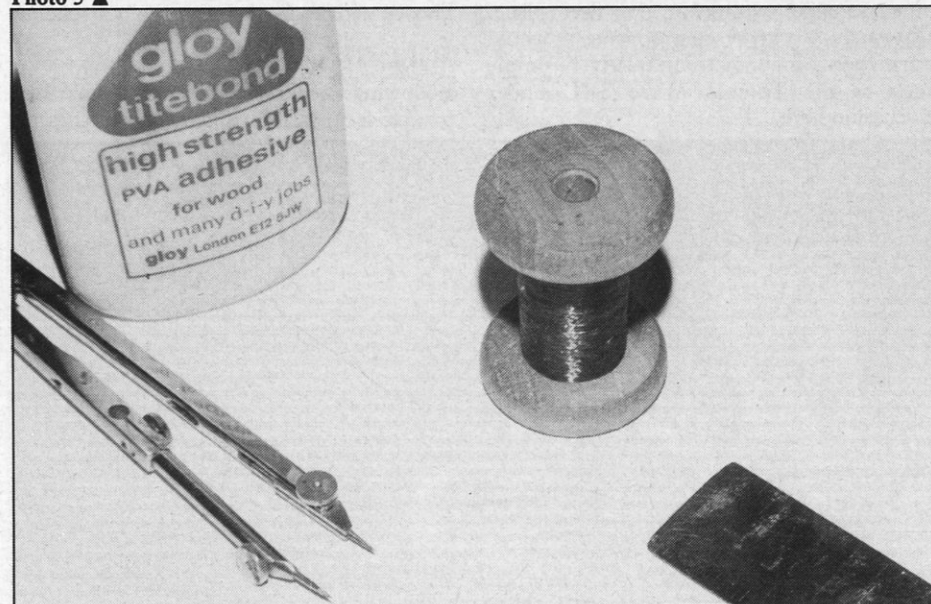


Photo 6 ▲

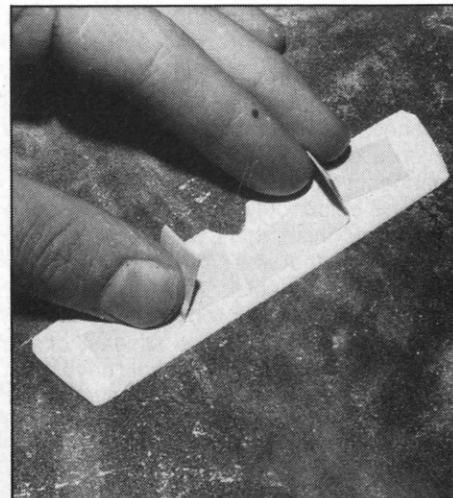


Photo 4 ▲

hints and tips provide a great deal of helpful advice and need little amplification from me. The parts are moulded on a single, stout sheet of polystyrene plastic (Photo 1) but despite the rigidity of the plastic, always remove parts by careful cutting using several strokes — do not try to cut through the plastic in one go.

The fuselage halves are joined using liquid cement as specified by Warbirds although I omitted the central keel and used tabs of scrap plastic glued at intervals to support the joint. The tailplane needs careful sanding at the edges whilst rib detail can be scored on using a sharp knife against a straight edge. Photo 2 shows the tail fitted with a dab of Milliput at its leading edge, necessary to blend in with the rear fuselage. A rotary engine from a Revell Sopwith Triplane was used on my model for quickness, although one is provided in the kit. Note the cowling which has had its circular opening removed by careful cutting then smoothed by use of wet n' dry carbide paper wrapped round a wooden dowel. This is done *before* the cowling is cut from the backing sheet.

When building small scale biplanes it is essential that all flying surfaces be kept as *thin* as possible. This is easier to achieve with vacforms which invariably look more realistic than injection moulded kits of this type. Trailing and leading edges must be sanded down and 'handles' are required (as seen in Photo 3) from strong tape to hold the part whilst sanding — as shown in Photo 4. Beneath the wing is a sheet of carbide paper secured to a building board by double-sided tape.

Once the major components are completed the model should be painted prior to assembling the upper wings to the rest of the airframe. The overall colour used on S4Cs of the period was a dark olive green best matched by Humbrol 86 with a touch of black and yellow added.

Transfers are not provided in most vacforms and the 'Tommy' was no exception. In this case, roundels came from Microscale Sheet No. 72-1, and the fuselage numerals from the transfer spares box. Rudder stripes were hand-painted before a final coat of semi-gloss varnish was applied.

The kit's struts can be used for final assembly although those with a good scrap box may yield stronger alternatives (Photo 5)

while Contrail produce suitable lengths of aerofoil-section plastic strip for just such a purpose.

Ah, rigging!

Yes, rigging. An imperative 'chore' for biplane builders but one that comes easier with practice. You can use stretched sprue if you like, but for my 1/72nd scale models I use rolled copper wire of 44 swg gauge. Not always easy to track down but some big radio/electrical shops sometimes stock it on large rolls, one of which will last a very long time. Apart from the wire, you'll need a metal ruler, a firm flat surface, a pair of dividers and PVA white glue (Photo 6).

To straighten a piece of wire, lay it on the smooth worktop (a sheet of glass is ideal) and roll the ruler gently over it to and fro. (Photo 7) With practice, perfectly straight lengths will result. Once the pieces are selected for use, measure their required length by using

Photo 7 ▼

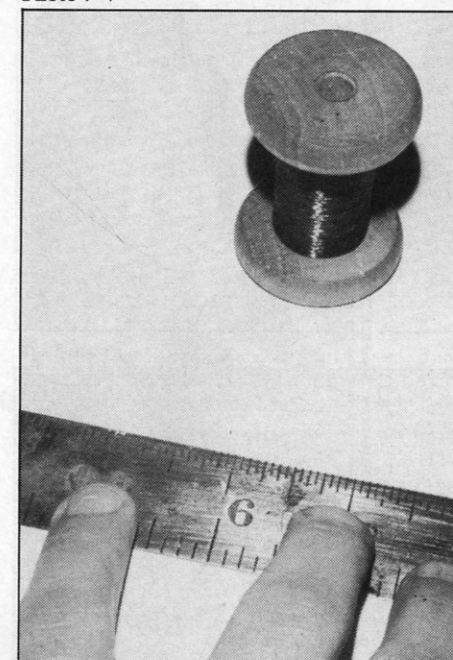


Photo 10 ▼

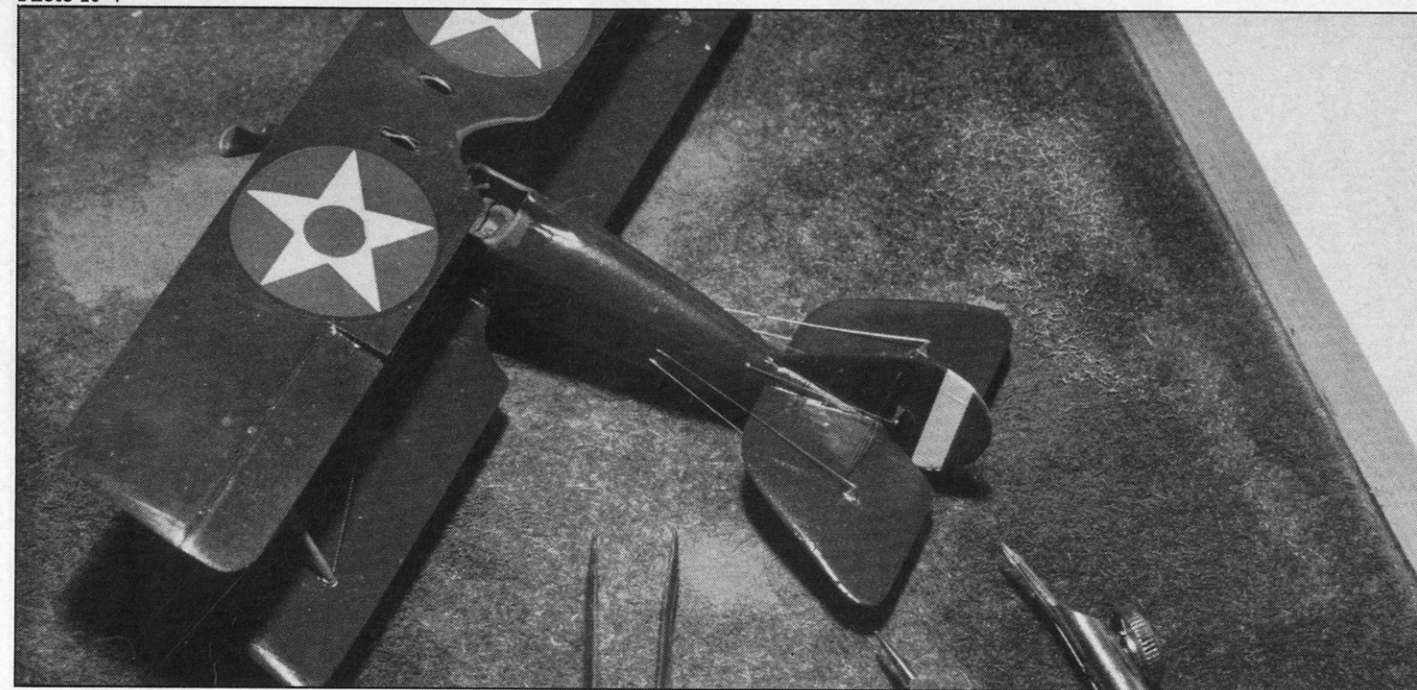


Photo 8 ▲

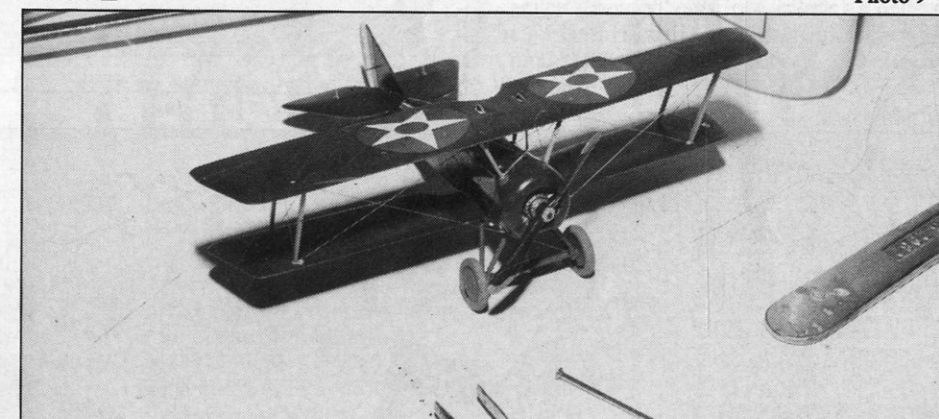


Photo 9 ▼

the dividers to gauge the distance between points as shown in *Photo 8*. Transfer the 'length' to the wires and then cut as required.

Use of tweezers is essential to place the wires in their correct position (*Photo 9*). Also a pin or cocktail stick is handy in transferring small blobs of PVA glue to the points on the model. PVA glue is ideal for such work, it dries invisibly, is quite strong and, best of all, does not string.

I always leave the control wires (*Photo 10*) until last and these are carefully attached to the fuselage sides and control horns (from snippets of 5 thou plastic card) glued to elevators and rudder.

Use of scale drawings is essential for an accurate model and an S4C is available from the MAP Plans Range. Drawn by Harry Woodman, no stranger to readers of this magazine, they will provide an authoritative check for incidence angles and disposition of rigging. (*Photos 11 and 12*).

I've not mentioned such areas as cockpit detail since this depends on various factors: the whim or experience of the modeller; the availability (or otherwise) of good reference material, or inclusion of a pilot figure. At the very least I ensure that my 1/72nd scale WW1 models include a seat, straps, instruments, control column and rudder bar.

So that's it for this month. I hope I've convinced those of you who have never tackled a vacform that they're worth trying. Why wait fruitlessly for Airfix, Hasegawa or Revell to produce a Halberstadt Scout, Pucara or Singapore flying boat when all those lovely vacs are available?

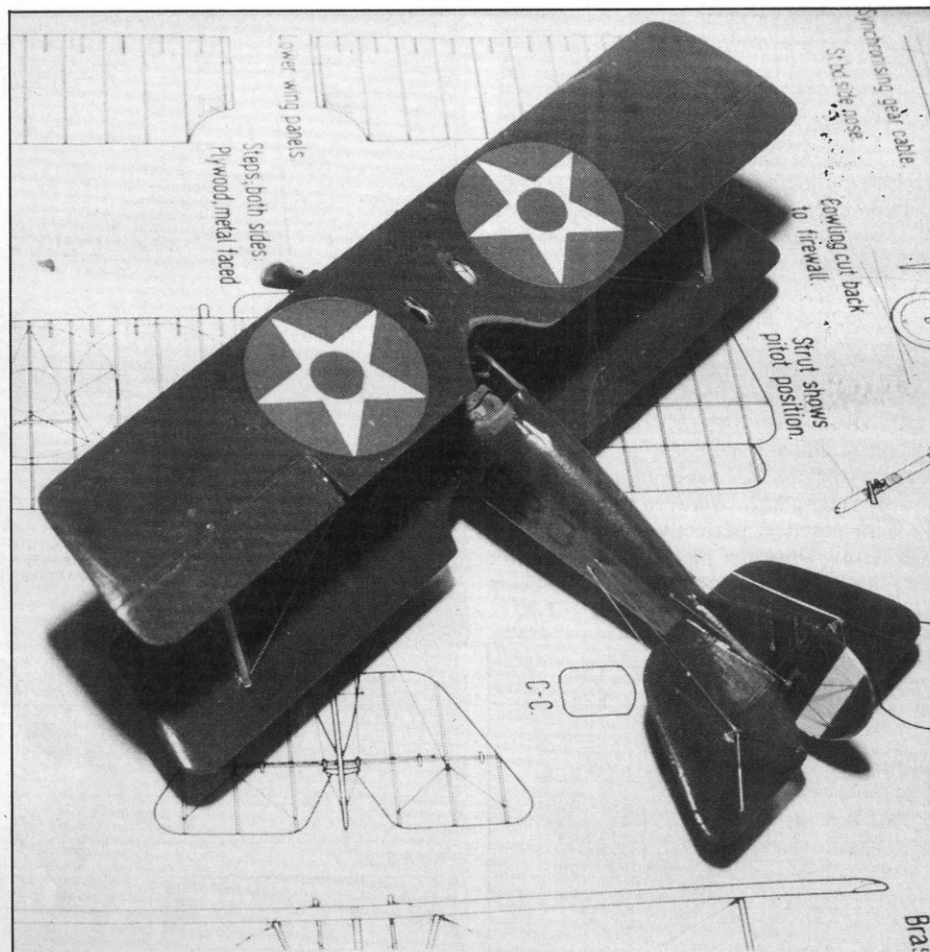


Photo 11 ▲

Photo 12 ▼

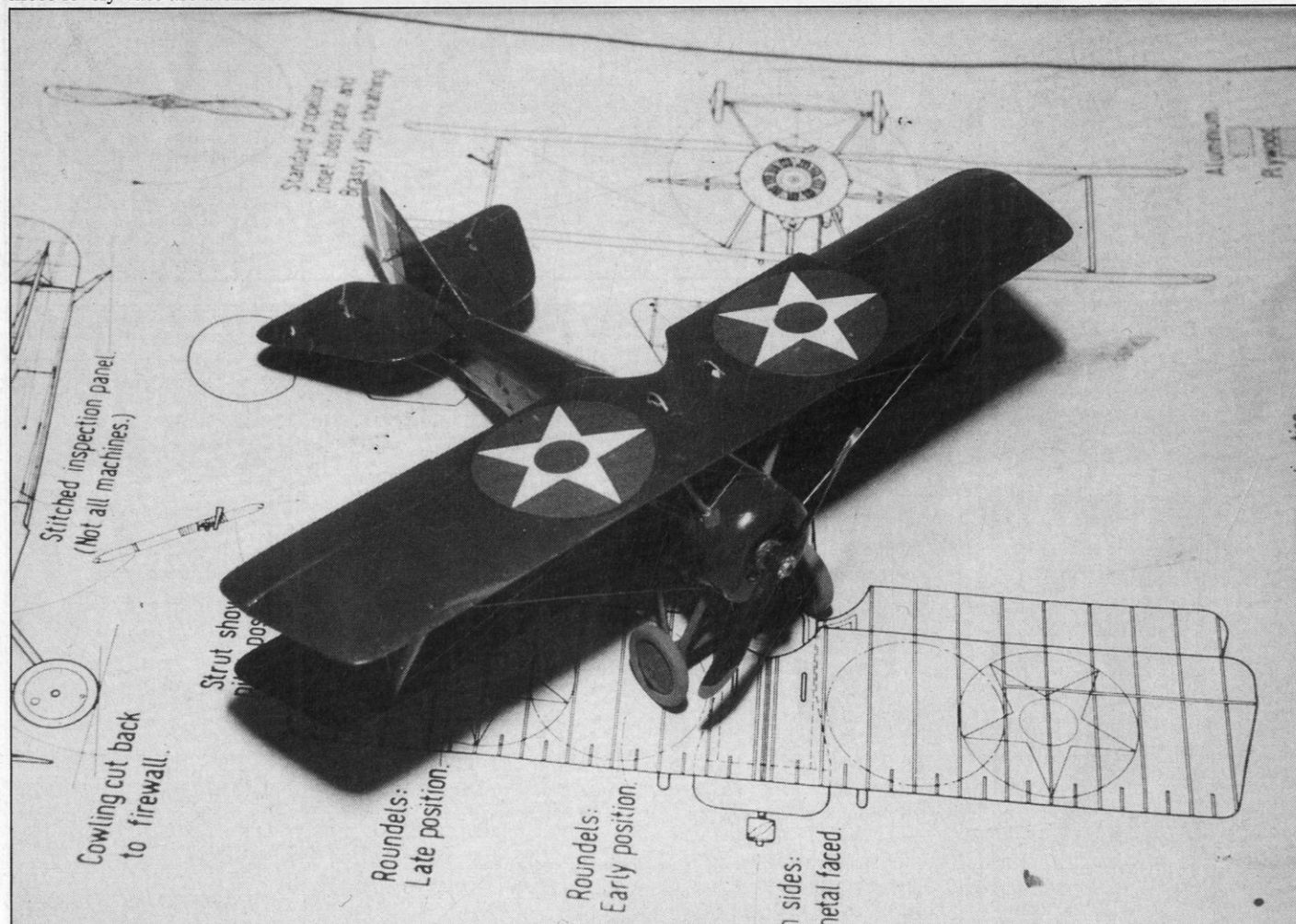
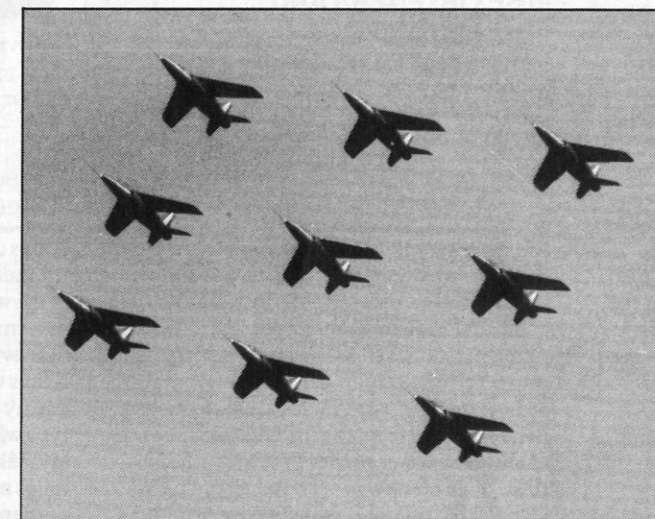


Photo 11 ▲

Photo 12 ▼

CONSTRUCTOR

THE NEWS LETTER OF THE AIRFIX MODELLERS' CLUB ISSUE 6



THE RED ARROWS

The Red Arrows have now been the R.A.F. Aerobatic Team for 18 seasons. During this time they have presented more than 1600 displays in Europe, America and the Middle East.

The Red Arrows exist as a standard R.A.F. Squadron but their purpose is simply to provide a public demonstration of the skill required of all R.A.F. officers and airmen. If the country were at war the aircraft would be fitted with sidewinder missiles and the Team would supplement front line fighter squadrons.

Hi Kids!

In this month's CONSTRUCTOR the emphasis is on the Red Arrows — the exciting R.A.F. Display Team. Many of you will have seen them at air displays around the country, or made the Red Hawk jet which is available in the AIRFIX range. There's also news elsewhere in the magazine of an AIRFIX competition, the winner of which will have a chance to spend a day behind the scenes with the Red Arrows — as well as winning lots of AIRFIX kits. Sounds good!

The Red Arrows feature means that our Day In The Life of a Battle article hasn't made it in this issue. Sorry about this — we know how much you all enjoy this series — but with only eight pages there simply isn't the space to include it. Don't worry though — we shall be returning to this theme in future issues.

A number of you are currently writing in to ask if we can supply lists of model shops in your area. Unfortunately, we can't do this — but there is an easy way around the problem. Look in your yellow pages — where you'll find a full list of model and hobby shops.

And a Merry Christmas from all of us at CONSTRUCTOR. Let's hope those Christmas stockings are bulging with model kits for you to make and enjoy.

THE AIRFIX MODELLERS' CLUB ...

If you want to join the Airfix Modellers' Club to get your introductory kit, badge, Membership Card, Certificate, Modellers' Manual and everything else, simply send a cheque or postal order for £2.25 with your name and address to: The AIRFIX MODELLERS' CLUB, FREEPOST 21, 28 Newman Street London W1

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FALKLANDS FILE.....

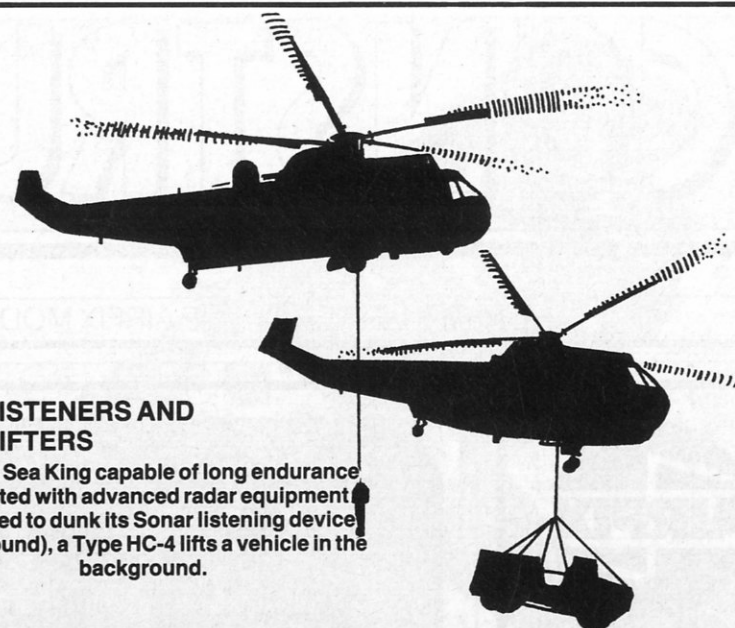
From recovering smaller, damaged helicopters like the Gazelle AH Mk1 that fell victim to ground fire over the San Carlos beach-head on 21 May, to using the down-draught from their rotor blades to blow rubber dinghies to shore, the Falklands campaign might have been very different without the Westland-Sikorsky Sea King.

Typical of the mercy work that these machines performed was one of the three occasions when helicopter pilots earned gallantry awards over Bluff Cove. Included was that performed by Lieutenant Commander H. S. Clark R.N. of No. 825 Squadron who took his Sea King into the smoke and flame that engulfed the logistic landing ship, *Sir Galahad*, the Royal Fleet Auxiliary vessel set alight by Argentine fighter-bombers on 8 June, plucking survivors from the blazing deck and being finally rewarded with a Distinguished Service Cross.

This was not the only type of work performed by the remarkable Sea Kings; from the crowded deck of the carrier HMS *Hermes* they flew to redistribute the supplies throughout the fleet that had sailed with such 'fire brigade' speed that the final provisioning and issue of ammunition had to be undertaken while the Task Force was actually at sea and making for the battle zone.

THE LISTENERS AND THE LIFTERS

While a Sea King capable of long endurance and fitted with advanced radar equipment prepared to dunk its Sonar listening device (foreground), a Type HC-4 lifts a vehicle in the background.



The luxury liner *Canberra*, snatched from her work of schools' sea cruises was also hastily converted by the addition of a helipad and from this flew other Sea Kings to lift off Army personnel from the liner, not pressed into service as a troop-carrier.

But if all this work might seem to be performed far from the immediate face of the enemy, there was plenty that was; among these operations was of course that when a clandestine operation must be carried out, and one such came to light when one of these helicopters was lost with the lives of 18 SAS men and the three crew-members, the helicopter being brought down by the frigate from which it had taken off, rising on the swell in a vicious storm and striking it underneath.

Less spectacularly, but equally vital, Sea

Kings daily shifted vehicles, evacuated the wounded and trailed their Sonar equipment in the waters to listen for the stealthy movements of suspected enemy submarines.

Inevitably, as in any war, some of the Sea Kings were lost, but not all were due to enemy action. This is true of the first of the type which had to be ditched on 23 April, the HC Mk4, ZA411 going down about 2,000 miles north-east of the Falklands. But perhaps most intriguing of all is the fate of ZA290 of No. 846 Squadron that made a landing in Chile on 17 May and was deliberately destroyed by her crew. What was a British military helicopter doing in this region in the tense political climate which prevailed? The true explanation of that one is only to be found in tomorrow's history books.

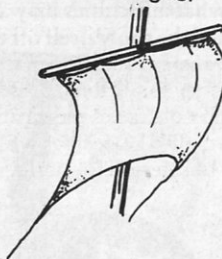


Techniques

Keen modellers will be familiar with the AIRFIX range of historical ships — from the *Victory*, Nelson's flagship at the Battle of Trafalgar, to the 17th century *Royal Sovereign*, which survived 60 years of maritime conflict. But ship modelling requires a great deal of patience and skill — moulded sails have to be precisely cut out before you rig them or add extra detail. So here are a few useful ideas:

SAILS

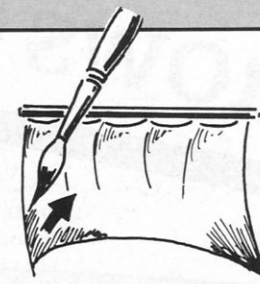
Obviously, a ship's sails would not be pure white. Weathering — the effects of rain and sea water — soon affects canvas. So use a brush or spray paint to recreate shadows at the edges.



CANNON HOLES

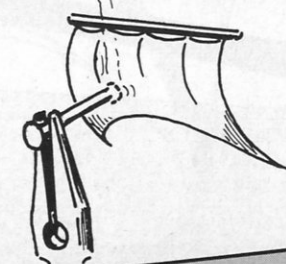
For super-realism why not add some cannon-holes to your sails, so that the ship looks as if it has just emerged from a desperate naval battle?

This is quite easy. Start off by using a pair of pliers to hold a small nail over a flame.

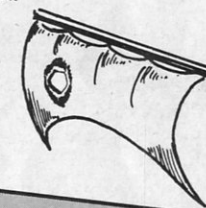


Paint inwards from the edge of the sail to create this effect. When you've done this, brushing with shades of cream and white paint will deepen the folds and seams to make the sail look worn and wind-battered. If you're using spray paints BE CAREFUL. Fine spray can quickly spread through a whole room while you're engrossed in your model.

When hot, poke the nail through the sails. But don't overdo it — only make a few holes. Be careful not to damage the sail other than by making a clean hole.

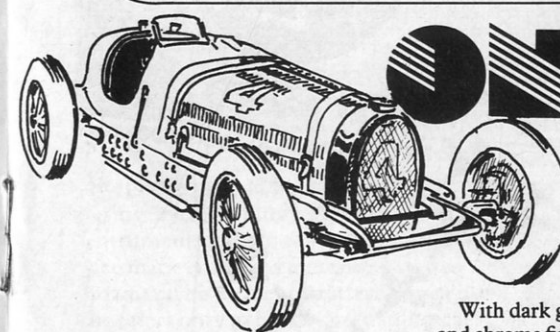


Remove excess plastic and lightly drybrush matt black round the cannon hole to give a charred effect.



Next

TRUCK MODELLING



Matchbox 1/32nd Scale Bugatti Type 59

It's time for nostalgia and Matchbox kit of this classic racing car literally oozes with character. A vehicle that heralded the end of one era and the start of another, the Type 59, was the last Bugatti Grand Prix model and one of the most successful cars in the sport's premier league prior to the introduction of the Mercedes Benz and Auto-Union 'supercars'.

With dark grey, blue, clear, rubber and chrome finished parts, the Matchbox kit enables a 'road trimmed' version to be made straight from the box, little more than a tube of glue being necessary for completion.

However, careful painting of the mechanical details and a sprayed on coat of French blue of the body panels will help to bring the model to life; apply a little more dexterity and a representation of the Grand Prix version can be made.

Following the instructions provided, paint the small parts and then assemble the engine, chassis and suspension components. Prior to

painting the body take and offcut of 0.010in Plastikard and use it to cover over the passenger side of the cockpit — on the prototype this could be either metal or canvas and, if depicting the latter, it could be added once the model is near complete, substituting cartridge paper in place of plastic sheet.

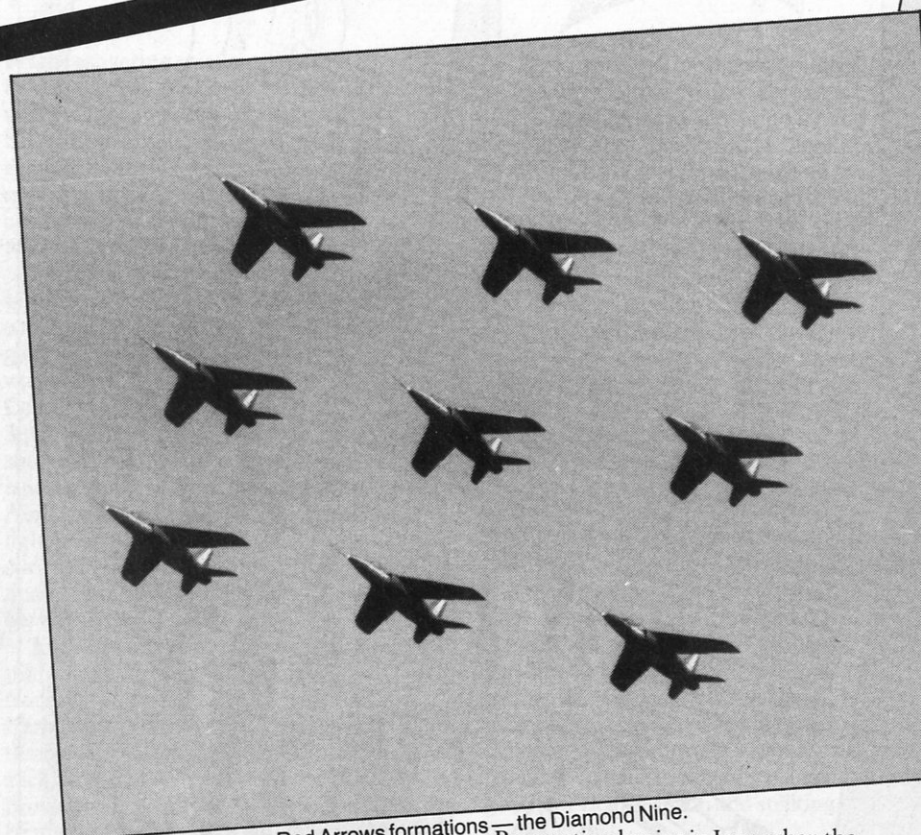
Now fit the bodywork and add the exhaust, filler caps, steering linkage, handbrake and wheels, but leave off the headlamp assembly and cycle wings — they will make worthy additions to the scrapbox. After painting its supporting frame cement the windscreen on to the cockpit cowl, not upright as instructed but at an angle of about 15 or 20 degrees towards the driver.

After positioning the number transfers and applying a protective coat of clear varnish, there are a couple of further embellishments that can be added if required.

Leather bonnet straps (very much the thing to have in the pre-war period) can be made from thin strips of masking tape painted mid brown, with small rings of fuse wire for the buckles. A stone-guard for the radiator is also easily made, this time using a piece of clear plastic sheet cut to the same profile as the shell and with a cross hatch pattern of lines scribed on with a craft knife. Using a couple of slices of sprue as spacers, the grille can then be cemented to the front of the radiator and the car is complete.

THE RED ARROWS

THE RED ARROWS ● THE RED ARROWS ● THE RED ARROWS ● THE RED ARROWS

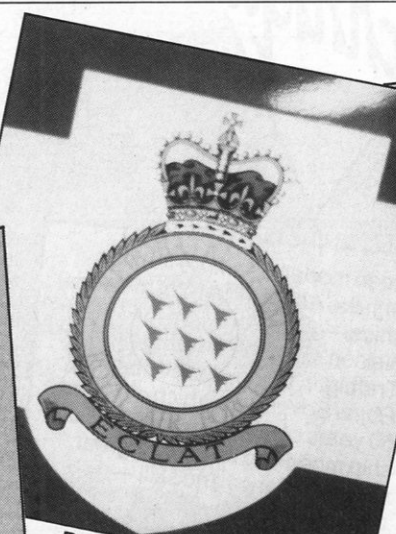


One of the best-known Red Arrows formations — the Diamond Nine.

The Team is based at R. A. F. Scampton, near Lincoln: a group of nine pilots led by a Squadron Leader, but supported by many more technicians and ground crew. Away from base the team is accompanied by 27 travelling groundcrew, while the Senior Engineering Officer and a further 50 technicians stay behind to service the aircraft on their return.

The displays take place in summer.

Preparation begins in June when the selection of pilots for the next year takes place. New members of the team arrive at R. A. F. Scampton in late summer, as the display season reaches its close, and immediately begin formation flying practice. The aircraft — Red Hawk Jets — are overhauled and in October training for the new display programme begins. This is planned with impressive precision. The team undertakes up to four sorties a day — at

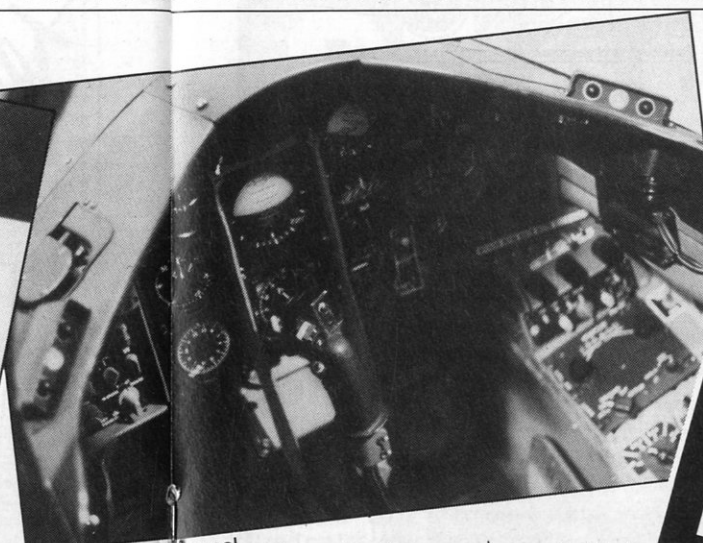


Red Arrows badge, found on the port side of the plane. (All photos P. Cooksley).

first with small formations of aircraft, but gradually building up to the full nine. Each practice is filmed on videotape so that mistakes and errors of judgment can be analysed. By the end of March — when the period of training is completed — the new display should be perfect.

THE DISPLAY

No matter what difficulties may arise, the team is trained the show itself off to the best possible advantage. The leader assesses the current weather conditions, decides how the terrain and any obstacles might affect the show. Eventually, he decides which type of display will be selected for performance.



Hawk instrument panel.

Formation flying rests on each pilot's ability to align his aircraft to that of the leader. In the end, his plane will act solely as an extension of the leader's. As the formation is slowly built up the pilots of each successive aircraft require more concentration to follow the enlarged movements up and down the line. To the leader it feels like flying a very large aircraft through a fighter tactics pattern. Regardless of their place in the formation the pilots must maintain their position.

Accurate station keeping is not the result of technical wizardry, but achieved solely by

lower than 2,500 feet.

When the cloud base descends as low as 1,000 feet the Flat Display is flown. This restricted display consists largely of level turns and a demonstration of the varied formation patterns.

Each pilot has to memorise the sequence in full as, from the commencement of the display until its conclusion some 15 minutes later, there are more than 15 formations, manoeuvres, two dozen formation changes,

five solo synchronized items and upwards of 30 smoke 'on' and 'off' calls. Throughout the sequence the team is in close radio contact and the leader gives all advisory and executive commands. Absolute obedience to the leader's commands is required to make up the precision display of skill harnessed to technology that is the Red Arrows Team.

See elsewhere in the Magazine for news of an exciting AIRFIX Red Arrows competition!



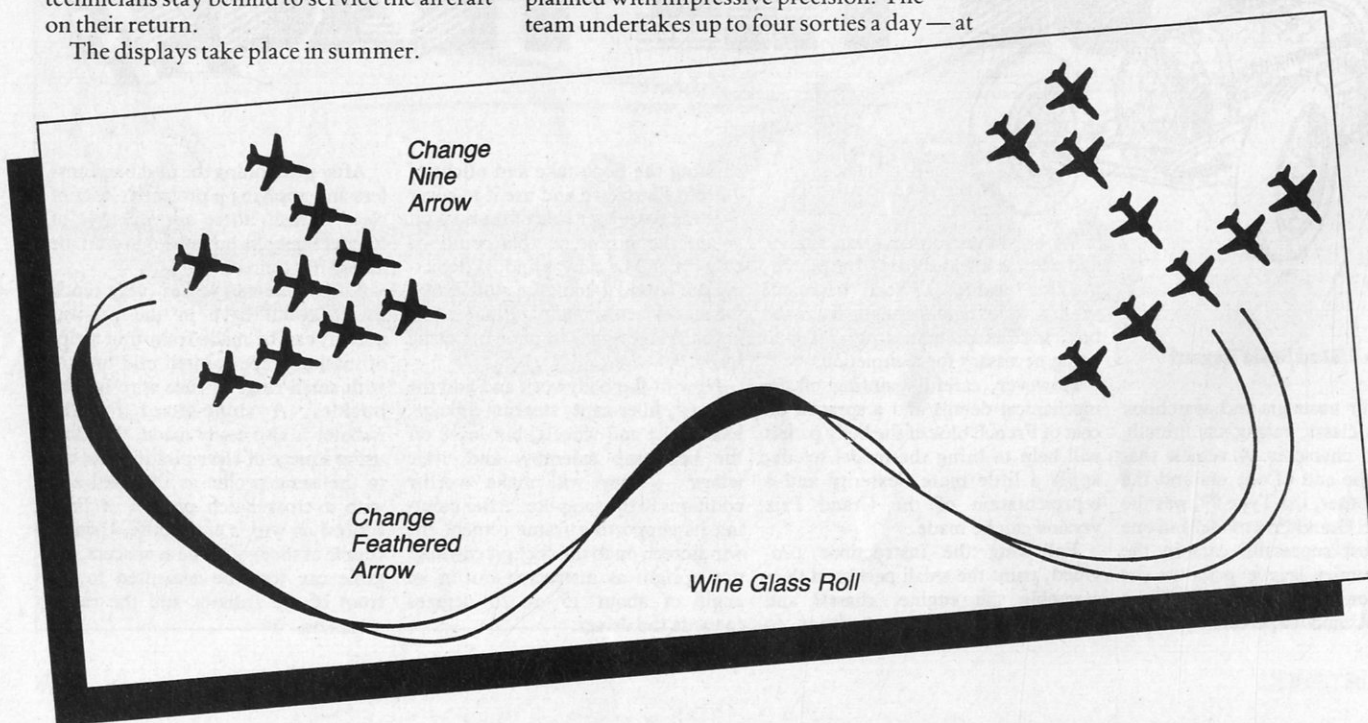
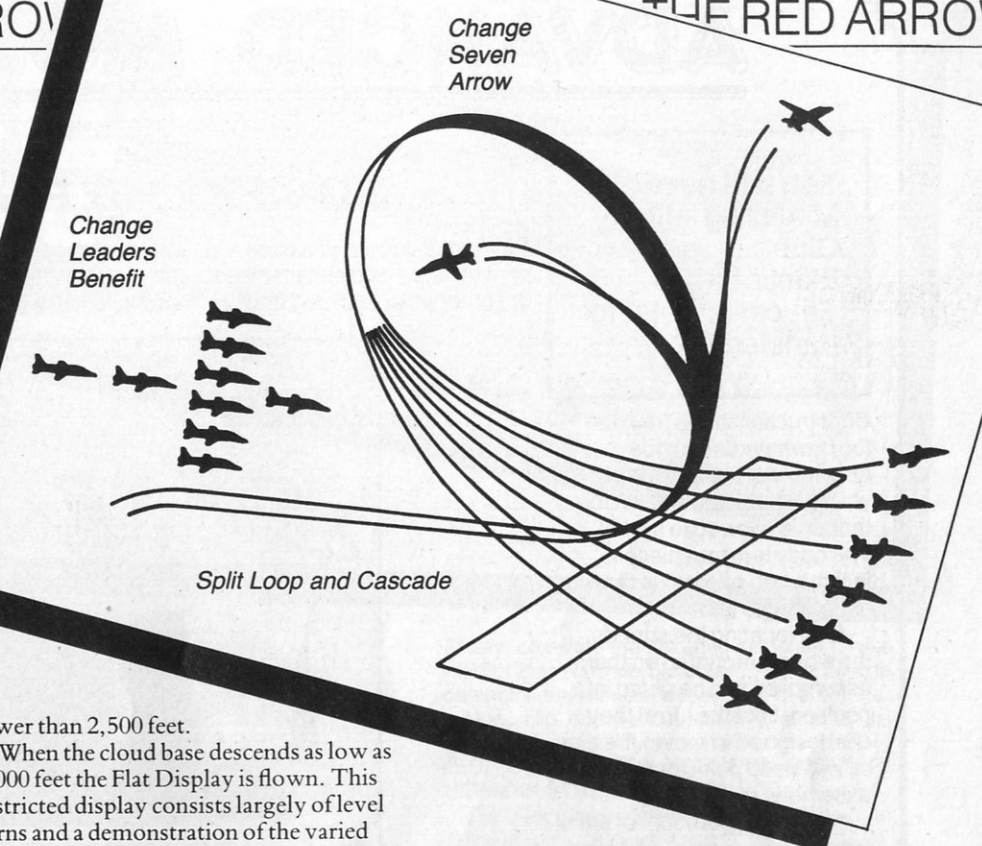
XP538 on the runway.

Hawk XX259 flown by Flight Lieutenant de Courcier.

the pilot's judgment. The leader, too, is only using 'eye ball' judgment and will turn to his instruments only to achieve the desired aerobatic entry and exit speeds and to maintain his sequence pattern. Even now, he refers only to his air speed indicator, altimeter and power instruments.

There are three basic displays for the public arena. The one which the pilots prefer to fly — it has greater continuity and flow — is the Full or fine weather display. This consists of a series of loops, rolls and wing-overs. Use is made of wide visibility to perform more advanced set-piece manoeuvres. The display requires a cloud base of 4,500 feet and a visibility of four nautical miles.

An alternative is the Rolling Display. This intermediate show is restricted to rolling aerobatics only and requires a cloud base no



ADVANCED MODELLING

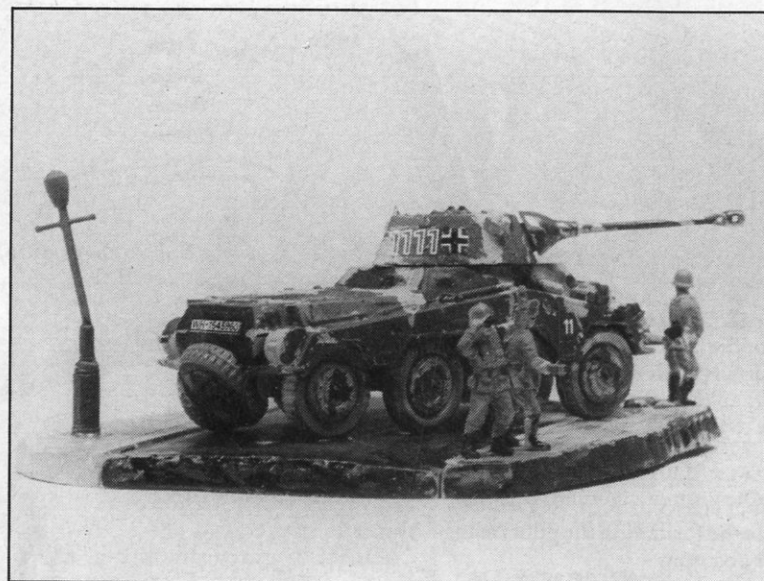
You will need:
Modelling knife
Glue
Elastic bands
Saucer of water for transfers

SD-KFZ 234/2 Puma Armoured Car

Paint work consist of a base coat of ochre with either stripes or smudges of brick red and

light olive to complete the camouflage effect. A diorama is supplied on which to mount

German figures to enhance the scene. the tank, including three



Construction starts from the top downwards with the assembly of the gun turret, which, when mounted on the model, is allowed to swivel. The body is in four pieces, which when offered up fit quite snugly together.

After locating the springs, the wheels mounted on their assemblies can be glued into position. Like the turret they are designed to move. It is also advisable to paint them before assembly.

A surprising amount of small detail is then added, including jerry cans to bring the model to its unpainted completed form.

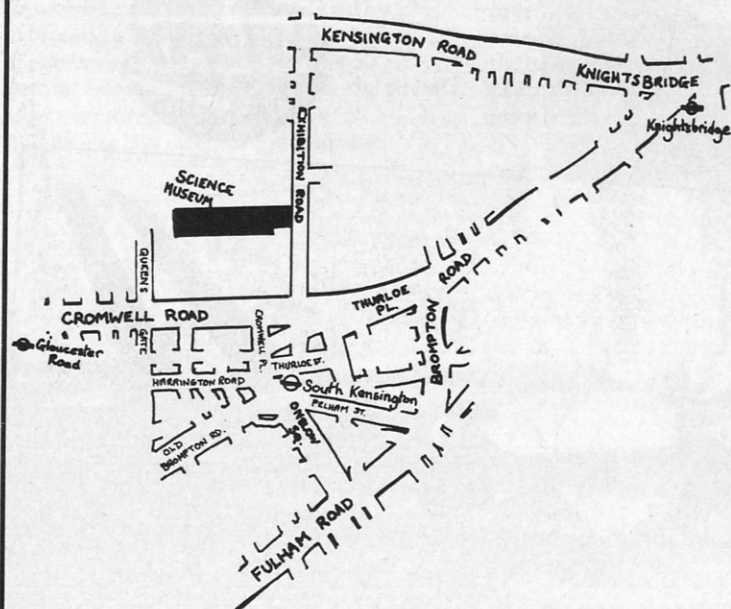
PLACES TO VISIT

THE SCIENCE MUSEUM Exhibition Road London SW7

Whilst there are museums specialising in aircraft, in automobiles, in public transport, ships or any one of a number of separate subjects, there are few which match the overall scope of the Science Museum. No matter what the interest it must be true to say that almost any reader of this magazine will find something to command his attention amongst the thousands of individual exhibits laid out in the many halls and galleries.

As you pass through the main entrance you are confronted by a collection of stationary steam and atmospheric engines, plus models charting the progress of power generation from thousands of years ago to the present day. There are railway locomotives which include the prototype Deltic and A GWR 'Castle' class 4-6-0. A fine collection of motor cars, motor cycles and cycles, and commercials feature a sectioned Mini, the first Rover turbine car, JET 1, and countless accessories. The history of flight is covered from balloons up to space travel and, as in almost all departments, there are a prolific number of showcase models either to represent prototypes that are unobtainable or impractical to display, or to show how the subject works in easy to understand terms.

From time to time special displays are featured — at present these include Telecommunications, Nuclear Physics and Petroleum. Admission is free and the museum is open from 10am to 6pm Monday to Saturday and 2.30pm to 6pm on Sunday. In addition to the above mentioned exhibits there is an extensive library and a range of books, leaflets and kits which can be bought from the museum shop.



SPACE MODELLING

Return of the Jedi Competition

Our Space Designer Competition (results of which will be announced early in the New Year) attracted so many entries that we've decided to hold another: a Competition based on the new Star Wars Film RETURN OF THE JEDI.

What do you have to do? It's simple. Just answer the following easy questions, based on RETURN OF THE JEDI.

1. What is the name of the Bounty Hunter who brings Chewbacca the Wookiee to the palace of Jabba the Hutt?
2. Which sea does Jabba's antigravity Sail Barge travel over the reach the mouth of the Sarlaac?
3. What is the name of the green moon — inhabited by the Ewoks — at the edge of the galaxy near the Death Star?

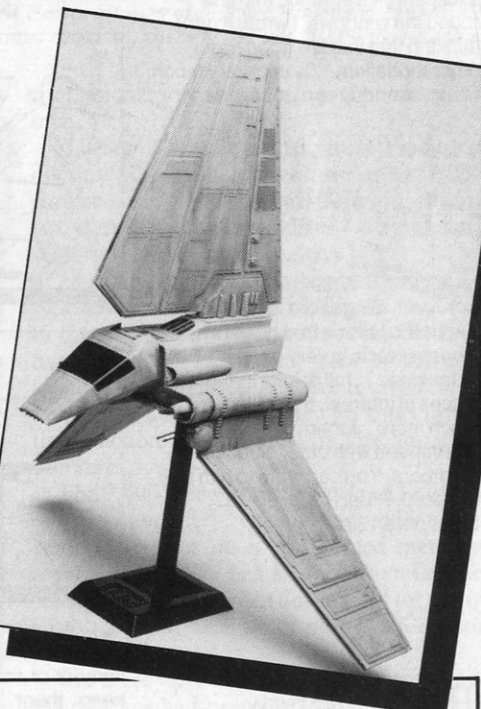
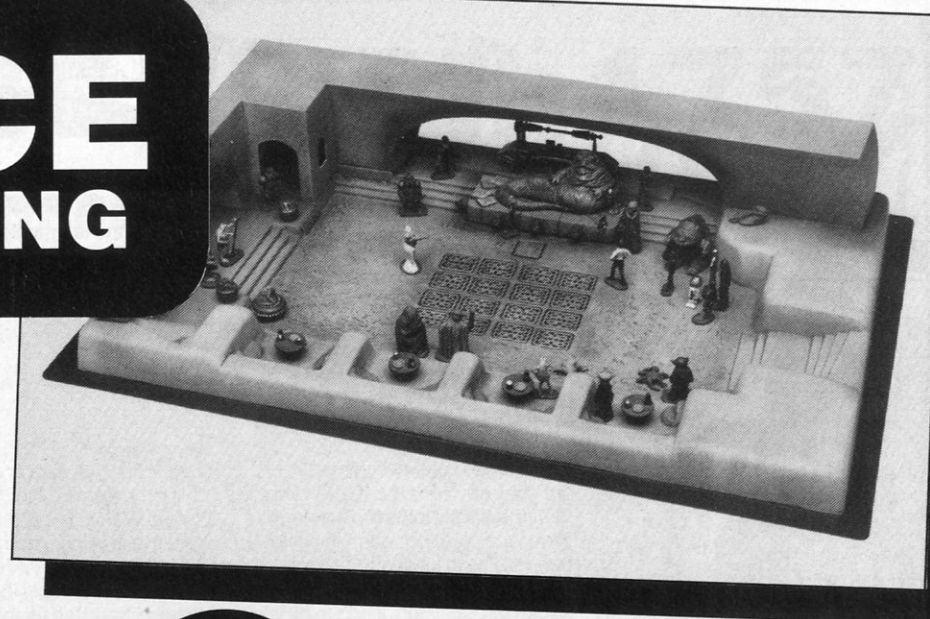
4. Who is 'Chief Chirpa'?
5. Name the planet which Luke Skywalker visits to talk to Yoda about the mysterious power of the Force?
6. Who tells Luke 'What happened to your father was my fault'?



Finally, complete the following sentence: 'I like AIRFIX Star Wars kits because' (to be used to determine the winners in the event of a tie).

Now, clip out the coupon and send it, remembering to fill in your name and address, to JEDI COMPETITION, CONSTRUCTOR, 28 NEWMAN STREET, LONDON W1.

The first three correct entries opened on January 31st 1984 will receive a RETURN OF THE JEDI model kit: Jabba the Hutt's Throne Room, the Speeder Bike, or the Imperial Shuttle Tyridium.



Return of the Jedi Competition

1.
2.
3.
4.
5.
6.

I like AIRFIX Star Wars kits because

Name Address

Modelwrite...

Another bumper selection of letters this month, plus some interesting model tips:

Dear Ed

CRAIG SPEEDIE writes from Currie, Midlothian with a very useful suggestion. He says: 'Today I was building a model when I saw that I had to paint the canopy ceiling. The only brush I had was thick bristled. I thought for a few minutes as to what I could use instead. I looked at an old paint brush and turned it upside down. Then I dipped the end of it into a pot of paint and followed the window line round. The result was excellent — a straight, thin line round the windows. I wrote to you thinking that this is a good tip for other modellers.' Thanks very much, Craig, sounds like a good idea.

Dear Ed

Writing from Singapore is JOHNNY TAN, who tells us that he thinks *Constructor* is 'a very good magazine... full of information, places of interest, modelling tips and much more'. Johnny would like to correspond with other club members. You can write to him at Block 90, Pipet Road, 66-127, Singapore 1337.

Dear Ed

MATTHEW RADFORD (Club Member No. 102564) writes from Nottingham to tell us how much he enjoys making the AIRFIX range of Airliners 'as I love civil aircraft. I also like plane-spotting and hope to be a civil aircraft pilot when I grow up'. Matthew is keen to correspond with other modelling enthusiasts — 'I was going to write to some of the addresses in *CONSTRUCTOR* but my sister ripped it up!' You can write to him at 46 Oxclose Lane, Edward's Lane Estate, Nottingham NG5 6FX.

Dear Ed

Some useful tips from Matthew Ekins who lives in Northallerton, North Yorkshire. Matthew says 'it's really about how to make model aeroplanes look as though they've crashed'. He gives some hints on making bullet-holes — rather like the ones in or Techniques column last month — but goes on: 'Next, heat up a wing near to where it joins the fuselage. When the plastic become flexible bend the wing as desired. Don't worry if it 'tears'. This will be an added effect'. Then, if you think your

model is insufficiently wrecked, 'do the same to the tail, halfway from the cockpit to the tail-plane and bend it upwards. Don't worry about the black caused by the flame. This again adds to the effect. Lastly, heat the propeller blades slightly until they bend inwards. The makes it look as if the aircraft has crash-landed'.

Dear Ed

A plea or some advice from G. PLEATE from Powys, Wales. His problem, when it comes to making planes 'is with the undercarriage leg. With most model aircraft I do I can't get the undercarriage leg off the sprue

Dear Ed

STEVE HACKETT from Preston, Lancashire writes to ask when some of the new RETURN OF THE JEDI kits will be available. We're not quite sure which ones you mean, Steve — Jabba's Throne Room, the Speeder Bike and the Shuttle Tydirium are already on the market. But don't worry — there are more exciting STAR WARS kits planned for early next year.

Dear Ed

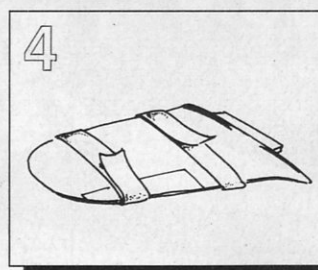
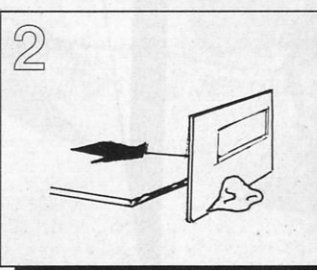
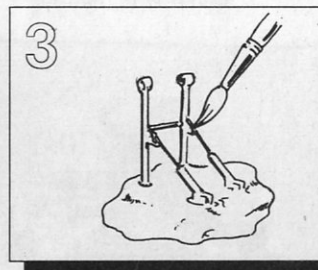
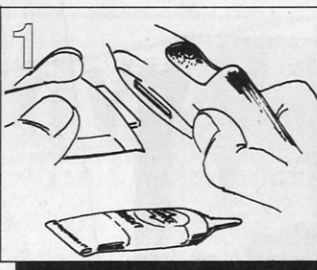
V. CONROY writes to us from Liverpool with some comments about *Constructor*. 'The feature I like best is "Day In The Life of a Battle" and the Falklands File, but I wonder if you could focus on Japanese air forces. I am not asking you to change the magazine. That would be a pity for us loyal members'. He goes on: 'I used to get bored before I joined the AIRFIX Modellers' Club, but now I am never bored. Keep up with the good work'.

Dear Ed

Several of you wrote in to say that you enjoyed our feature on HMS Exeter's homecoming from the Falklands and the Falklands File series. JAMES TANSLEY, from Sidcup, tells us that he's now assembled a whole collection of Falklands aircraft and hopes soon to construct a diorama on which he can display them all. JOHN GILLIEBRAND (Club member 108998) asks whether we can do some specific ship-building features as he could do with some advice on this rather difficult aspect of modelling. Well, John, our 'Advanced Modelling' feature often concentrates on ship kits, but we take your point about basic advice for the beginner in this field. We'll see what we can do.

Each month in *Constructor* we'll be running a letters page for you to write in to. If there's anything you want to tell us about your interests in modelling, or any tips you want to pass on to your fellow modellers, or any questions you want to ask about the Airfix Modellers' Club, just write to us at *Constructor*, 28 Newman St., London W1P 3HA. Here's looking forward to hearing from you.

★ ★ STAR ★ TIP ★ ★



1 It is often necessary to hold two parts of a kit together whilst the cement or solvent is applied — and keep them in exactly the same position whilst they set firmly. Sometimes the difficulty that this presents would make the modeller wish for a spare hand to help him out!

2 Here we show how a small piece of Blu-Tak can be used to hold one component (in this case a wall section from a house kit) as the second part is slid in position after cement has been applied to the edge.

3 Small parts such as undercarriage legs can be pushed into a lump of Plasticene and accurately aligned, then the solvent applied with a brush. Once set hard the assembly can be pulled from the Plasticene and attached to the main unit.

4 Clear or masking tape is also useful for giving temporary support to small or large components. Here we have shown two wing halves taped together whilst the adhesive dries.

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DECEMBER 5th 1757

The Forbes Museum of Military Miniatures

PETER JOHNSON is the curator, with his wife Anne, of the Forbes Museum of Military Miniatures in Tangier, Morocco, and author of *Toy Armies* (Batsford £9.95). Here he describes the making of a huge battle scene or diorama, the showpiece of the world's biggest collection of toy soldiers. And he relates the building of a super-diorama to what junior modelmakers can achieve with Airfix or similar modern figures and simple materials. Illustrations show old toy soldiers in realistic but simple settings.

There is a room in the Forbes Museum of Military Miniatures at Tangier where time stands permanently at four o'clock in the afternoon of December 5 1757.

The bayonets of the Prussian third battalion of the Garde have smashed through the doorway of the village churchyard of Leuthen. They are led by Captain Wichard Joachim von Mollendorf, untouched by the aim of nine Austrian muskets. The number is important. That is what history says. And that is how history is shown in miniature.

About four metres away, representing a mile or so of rolling, snow-dusted landscape, squadrons of Prussian cuirassiers and the murderous Bayreuth Dragoons in their sky-blue coats are preparing to demolish a cavalry attack with which Austria hopes to save this bitter day.

Around two windmills on a rise overlooking the village, where fighting has raged before installation in the 30ft diorama, 'flat' figures for the Battle of Leuthen. Centre foreground: Frederick the Great of Prussia.



The Palais Mendoub, Tangier, Morocco, home of the Forbes Museum of Military Miniatures. Inspired by Malcolm Forbes, owner of the American Forbes business magazine, the collection tops 80,000 figures and is open, free, seven days a week.

house by house, in every cattle stall, for every barn and even up to the belltower of the church itself, the Austrian lines are trying to regroup, 100 men deep.

From a lookout position Frederick the Great of Prussia surveys the progress of what history has judged to be the finest of his many victories — the defeat of a battle-hardened

professional force three times the size of his own.

With the 30-millimetre figure of Frederick on this Silesian battlefield are some 7,000 similar-sized 'flats' — old German, almost two-dimensional, tin soldiers — by Ochel, Heinrichsen and other makers.

As many as there are, they can only be a representation of the 120,000 men involved in the real action. To reproduce the battle in its entirety would not only take up acres of space but much of the scene would be unexciting and even boring. To concentrate time, action and interest is the thing in dioramas.

The 7,000 pieces for the Battle of Leuthen — troops, artillery, wagons and civilians — came to us as a mass of jumbled metal in several crates. We had bought them for the museum from a German dealer, and for many years they had been on display in a German museum.

But there were no written accounts of how the diorama had been composed. These had been lost in the war.

When you are planning an operation like this, what is in effect a detective investigation, you have to start with the reference books. We read everything we could find on the uniforms of the Seven Years' War and, particularly, on the Battle of Leuthen.

The key piece of the Leuthen jigsaw was the answer to the question: what phase of the battle is depicted? It lasted little over four hours, taking the whole of an afternoon until winter darkness came over the field. By knowing what regiments were thrown into





the battle at what times, and checking these details against the regiments represented among the metal figures, we were able to narrow down the time of action.

As in any battle, there was a series of actions. But at Leuthen the most dramatic, the most likely for exciting reproduction with tin soldiers, was the fight round the village itself.

And there at the bottom of a crate lay proof that the heart of the diorama was just that: we found a model of Leuthen village church.

Knowing what time our action was taking place on that winter afternoon, we then laid out the figures on a grid, conveniently provided by floor tiles in an empty room of the museum. From this we were able to draw a plan for the display cabinet in which the figures would be permanently arranged. It is L-shaped with each leg of the L about 15 feet long.

Having fun making a toy soldier diorama some 30 feet long is a luxury open to few. The Battle of Leuthen is so large that only a place like the Forbes Museum can display it.

But a simple, easy-to-make diorama is within reach of most of us and is a striking way of showing off either old toy soldiers or modern Airfix models.

It can be as basic as an ordinary tray, containing sand, dried earth or rocks. More

Thames TV crew film the Leuthen diorama.

Instant desert from local beach sand. French-made Arabs dance in the museum.

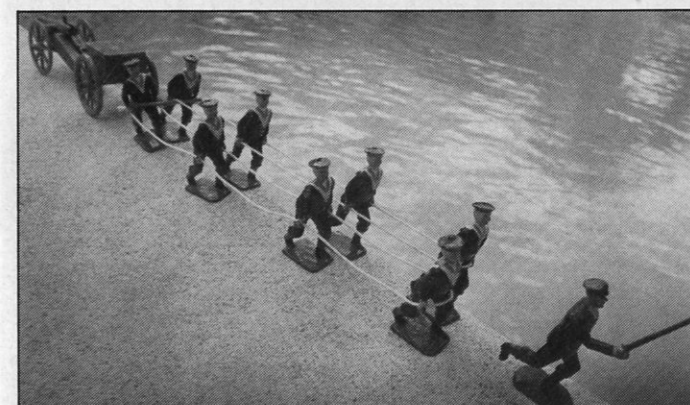


ambitious would be an old fish tank. This way, you can add background scenery on three sides.

Lichen for bushes and undergrowth is available in model shops, and the greys and faded browns always look better than the bright colours. Green scatter powder can be effective for grass — but the secret is not to overdo the quantity. A light dusting is much more effective.

The Battle of Leuthen took place on a day of snow showers. But we had to remember that where a large army had marched there would not be much snow left — only mud. Be sparing with snow unless it is supposed to be lying in thick banks. And take note — where men have walked and vehicles have been driven there are footprints and tracks.

You can buy 'snow' powder, but I always use ordinary bicarbonate of soda from the chemist's. Broken polystyrene chunks (universal packing material) makes effective ice crags.



Sand is a useful material for dioramas, but in reality it is seldom — except in the Sahara — as golden as builder's or model-store variety. 'Dirty' it a bit with gravel or similar material. And remember your foot and wheel tracks.

Trenches can be built from paper maché. Tear up old newspaper into three-inch pieces and soak them in wallpaper paste (or flour and water). When thoroughly soaked for a few hours, the compound can be moulded into all sorts of shapes over a rough framework of wood pieces or small-mesh wire netting. Dry out thoroughly for a day or two, then paint. Or brush your model with thin glue and on to it throw coloured powder, fine soil or gravel.

Earthworks and other fortifications can be made from appropriately sized lengths of polystyrene packing, its edges roughened and crumbled and the whole painted in muddy or grey colours. Hide corners and joins with lichen, or fill-in of gravel. Elaborately shaped polystyrene packing, thrown out by your local TV shop, often makes superb gun emplacements and fortresses.

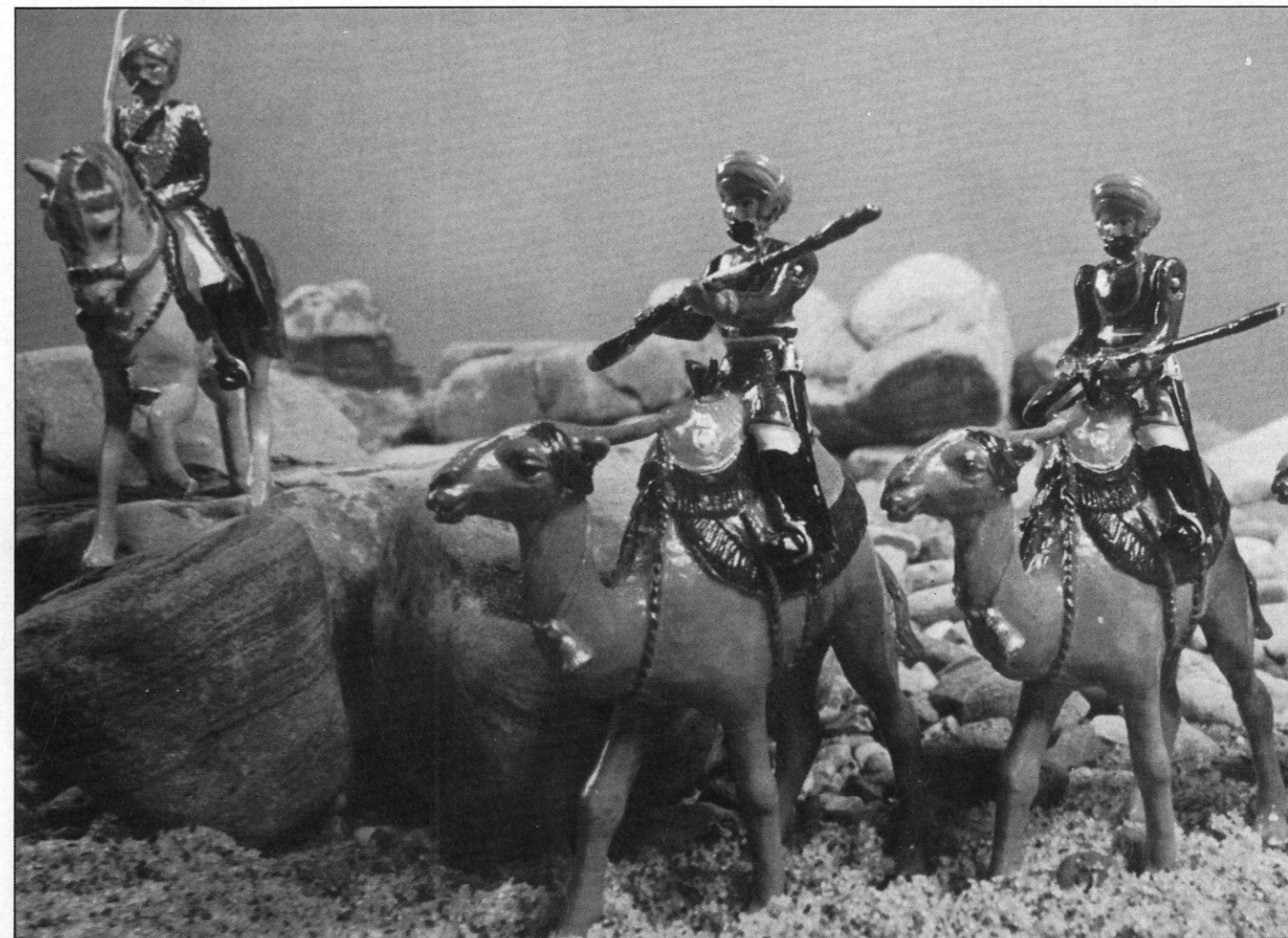


Top: Rare Indian infantry by Britains march amid convincing rocks of the North West Frontier. **Above left:** A Britains naval landing party at (real) pool's edge. Glass over blue paper makes convincing substitute. **Above right:** In the museum, a 20ft diorama of Britain's 19th century troops. **Left:** Hannibal's troops — Minikin figures — tread some pebbly Alps.



Bedouin Arabs (Britains) in realistic setting.

Britain's Sudanese infantry in ready-made Nile sands.



Nizam of Hyderabad's camel-gunners — a rare set by Nostalgia.

Polystyrene ice crags form background for Britain's ski-troops.





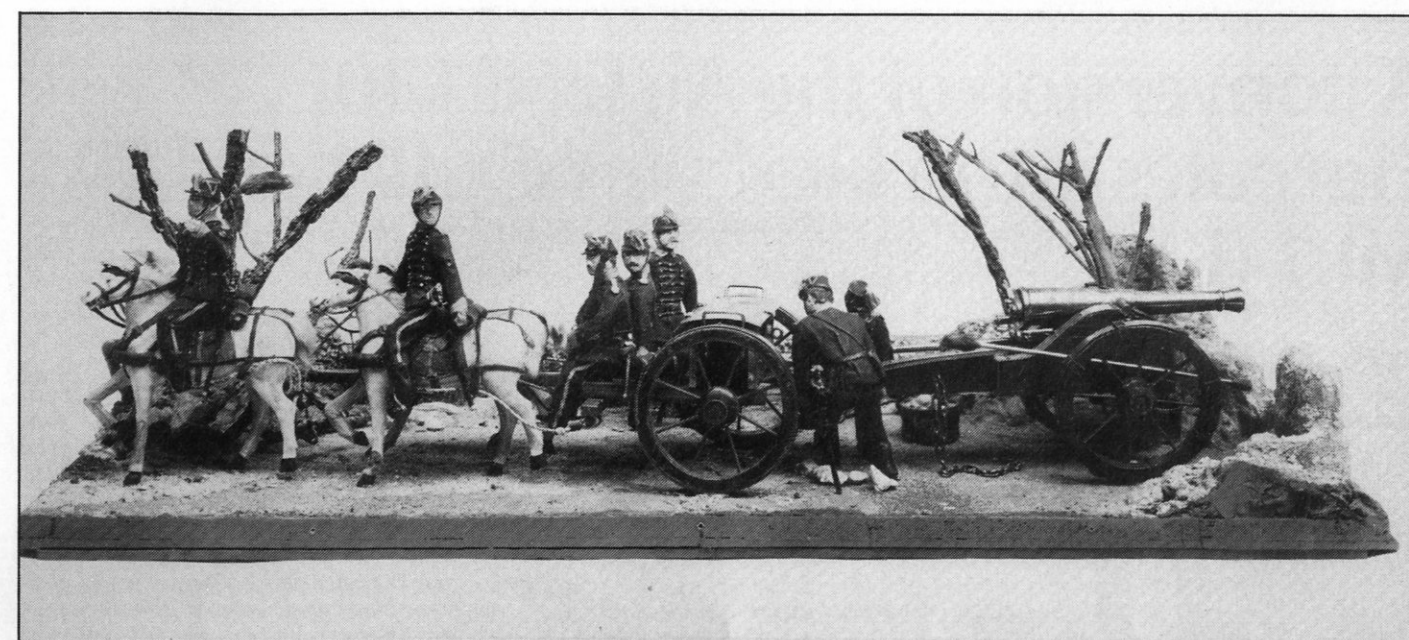
Above: classic encounter in the sands. French Foreign Legion against Arabs (Britains). **Below left:** One of Britain's most attractive sets — Mountain Artillery. The gun, carried in sections on mules, fits together and fires by spring action. **Right:** Nile expedition: Egyptian camel corps cavalry and infantry by Britains. **Bottom:** Always a popular diorama subject — the classic British fighting square. The Highlanders are all Britains.



Shell-holes on a battlefield — when you cannot, for obvious reasons, dig a real hole — can be produced by making a ring of earth or gravel, just like that thrown up by a real shell. Blacken the interiors and edges with 'coal' dust, from any model shop. Shell holes make adequate gun pits for troops caught out in the open. Make them more realistic by the use of debris, broken carriage wheels, or a few plastic 'off-cuts' from a modelling kit appropriately painted.

Some effective plastic materials are on sale for modelmakers wishing to represent water such as rivers and lakes. Do-it-yourself enthusiasts can achieve good effects by placing a small sheet of glass or clear plastic over blue-green or blue-grey paper. It has the added advantage of creating realistic reflections. Place a few rocks on your river, taking care to paint some white ripples on the downstream side of the rocks where the current swirls round them.

If you can spare a few Airfix soldiers to be cut at the knees or in half, glue them to the



surface of your water and they will look tremendously effective, as though they are wading the stream. Convincing the eye that it is looking at water is what it is all about, and men wading into a glass or plastic stream is the most telling way of doing this. And always put some tufts of lichen along the banks: you will need to do so, anyway, to hide the edges of your 'water'.

Spare a few men for casualties around your battlefield. For maximum effect cut off their bases. Tanks, vehicles and wagons that have seen better days may be smoke-blackened and put to use as debris of battle. Blacken them with matt print when the brush is nearly dry; an old toothbrush will do the job admirably.

Fine wire wool, 'fluffed out' like a cloud, looks convincingly like smoke pouring from a vehicle or a building. Blob a few touches of bright orange or red paint at the heart of the fire. Wire wool may also be used for the muzzle smoke of artillery. Cotton wool is an alternative, but if you use it, strengthen the puff of smoke with a concealed matchstick to prevent drooping.

Realistic damaged buildings and walls are available, unpainted, in shops. For the diorama of Leuthen we made our own from card and balsa wood. Constructing a damaged building is more difficult than producing an intact model. You have to think about the materials involved — brick, stone, wood and so on — and how they would look when hit by a shell. A latticework of broken matchstick beams, sagging down from a damaged roof and painted black, is not too difficult to achieve and is immediately effective.

Scenic backdrops may be bought, but they are often too detailed for the purposes of a small diorama. Often, a suggestion of distant hills in smoky blue or grey is perfectly adequate.

Above all, do not try to put too much in your scene. Leuthen, with its 7,000 figures locked in battle and a taped soundtrack of gunfire, bugles calls and men's shouts, is a showstopper in the museum. But I am just as fond of another that shows two troopers having breakfast under a tree.



Desert encounter between Britains, Turkish and Indian cavalry.

A diorama by a modern modelmaker — a scene from the Battle of Isandhlwana in which a British column was wiped out in the Zulu War of 1879.



A conversion of the Airfix C130E Hercules into a Hercules C Mk1 and C Mk1 (K)

by S. Slater



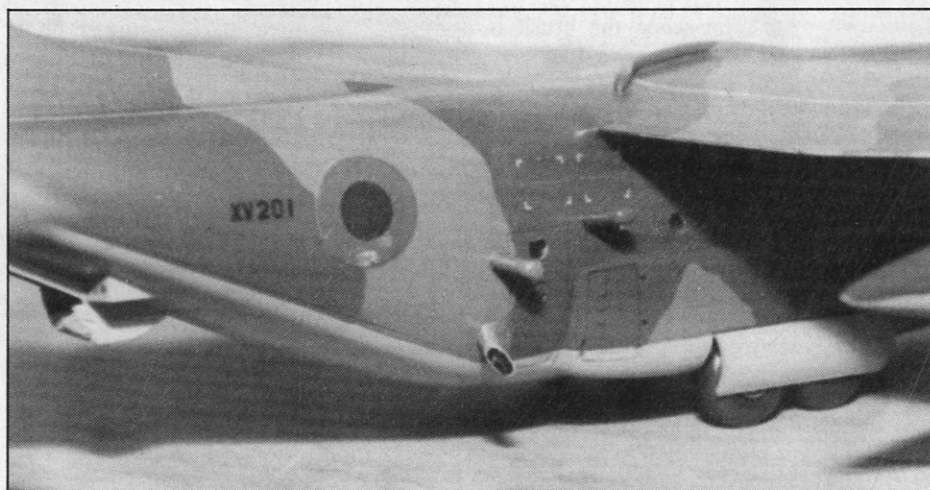
Finished model.

The Falklands conflict stretched the RAF tanker force to its limit. So much, in fact, that only a few tankers remained in the UK for the needs of supplying our air defence fighters with fuel. Help for the Victors came by way of a few Vulcan tanker modifications and the more successful Hercules tanker. Four standard sized Hercules C Mk1 freighters have been modified into flight refuelling tankers by fitting a standard RAF HDU (hose and drogue unit) onto the rear cargo ramp, the drogue unit being deployed through the upper cargo door. The drogue unit is so attached that the fuselage can remain pressurised until the drogue is deployed. The conversion has proved successful and will remain in service until the new VC10 tankers arrive, these together with the Tristar tankers will greatly enhance the RAF's tanker capability. The Hercules tankers are based at Wideawake Island together with 16 C Mk1s which have been fitted with long range tanks in the fuselage (these being ex-Andover tanks) and flight refuelling probes (ex-Vulcan) above the fuselage.

Conversion

The conversion is straightforward, more time being spent cleaning up and modifying parts from 15 year old moulds than anything else. If you do not wish to build the refuelling gear mounted on the rear of the aircraft (and I must admit that it is a little fiddly), then just model the flight refuelling probe instead. Please note that no C Mk3 (stretched) aircraft have been fitted with

corrected requires a little extra work. The detail can be seen on the finished model and gives the cockpit the correct look of being full instead of looking like an empty office block. Use the drawings supplied to provide the extra detail. The navigators position, crew storage lockers, crew rest bunks and galley are all made from .030 card. The flight engineer's seat sits between the pilot and co-pilot's seat, and is from the spares box or is made from card. Alter the kit seats as shown and add support arms and seat belts. Using the kit control wheel add a new column from card and, using the drawings, make up and fit a new instrument panel from .030 card. Study the photographs and any reference material carefully. The time taken to detail the cockpit will be rewarded in the accurate look when viewed on the finished model. Finally move the access stairs to the forward edge of the opening



Close up of STB intake and exhaust arrangement. Port side does not have intake forward of air drop door.

probes. In addition to the kit you will require .010 and .030 plasticard, thick sprue for the refuelling probe (suitably sized kit runners are ideal for this) Mod-eldec sheets 35, 36, and 60, and either a mapping pen and some red and yellow paint or some red and yellow decal strip. The yellow is used to outline the walkways on the top surface of the aircraft and the red to give the refuelling aligning stripe underneath the tanker only.

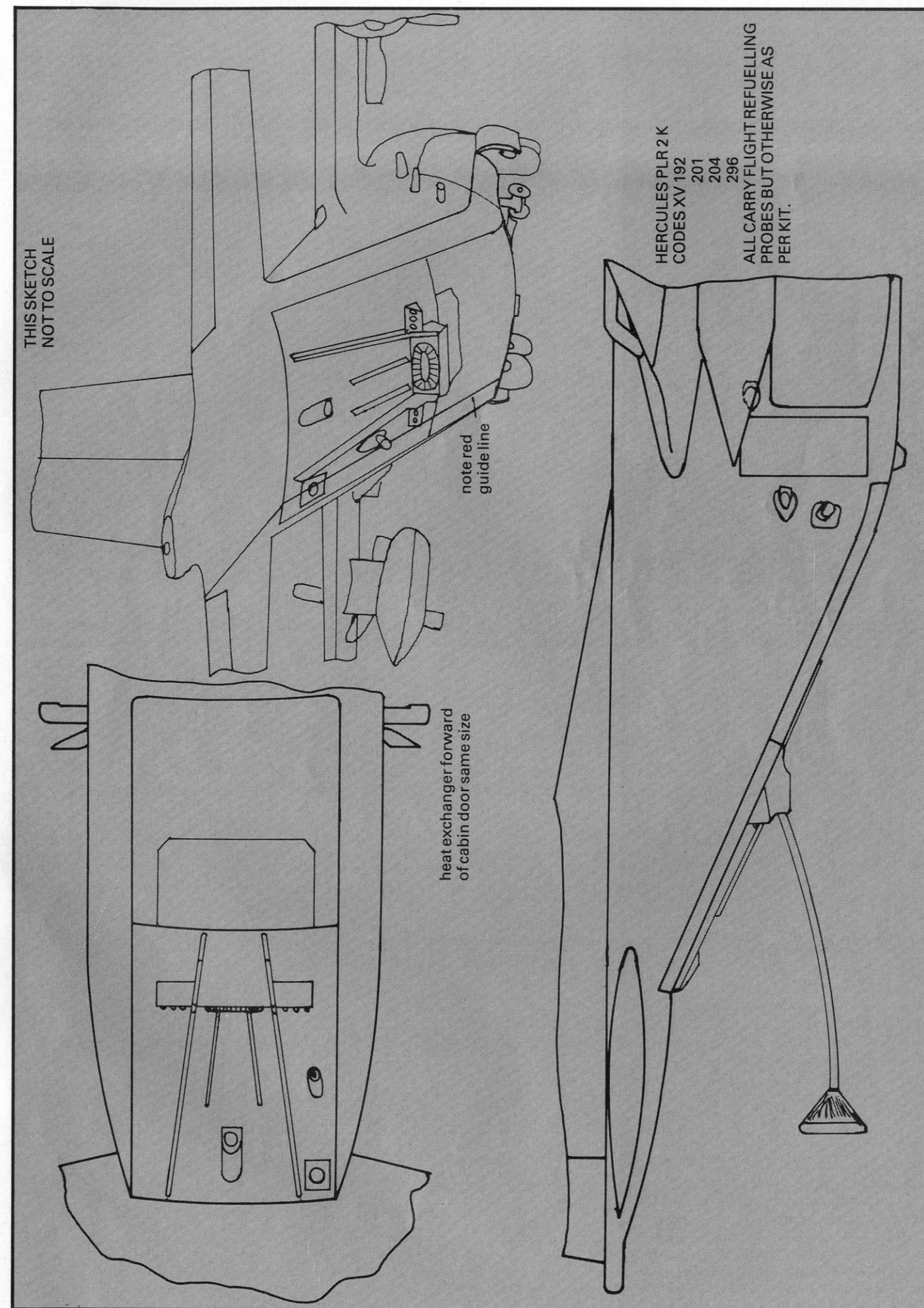
Stage One:

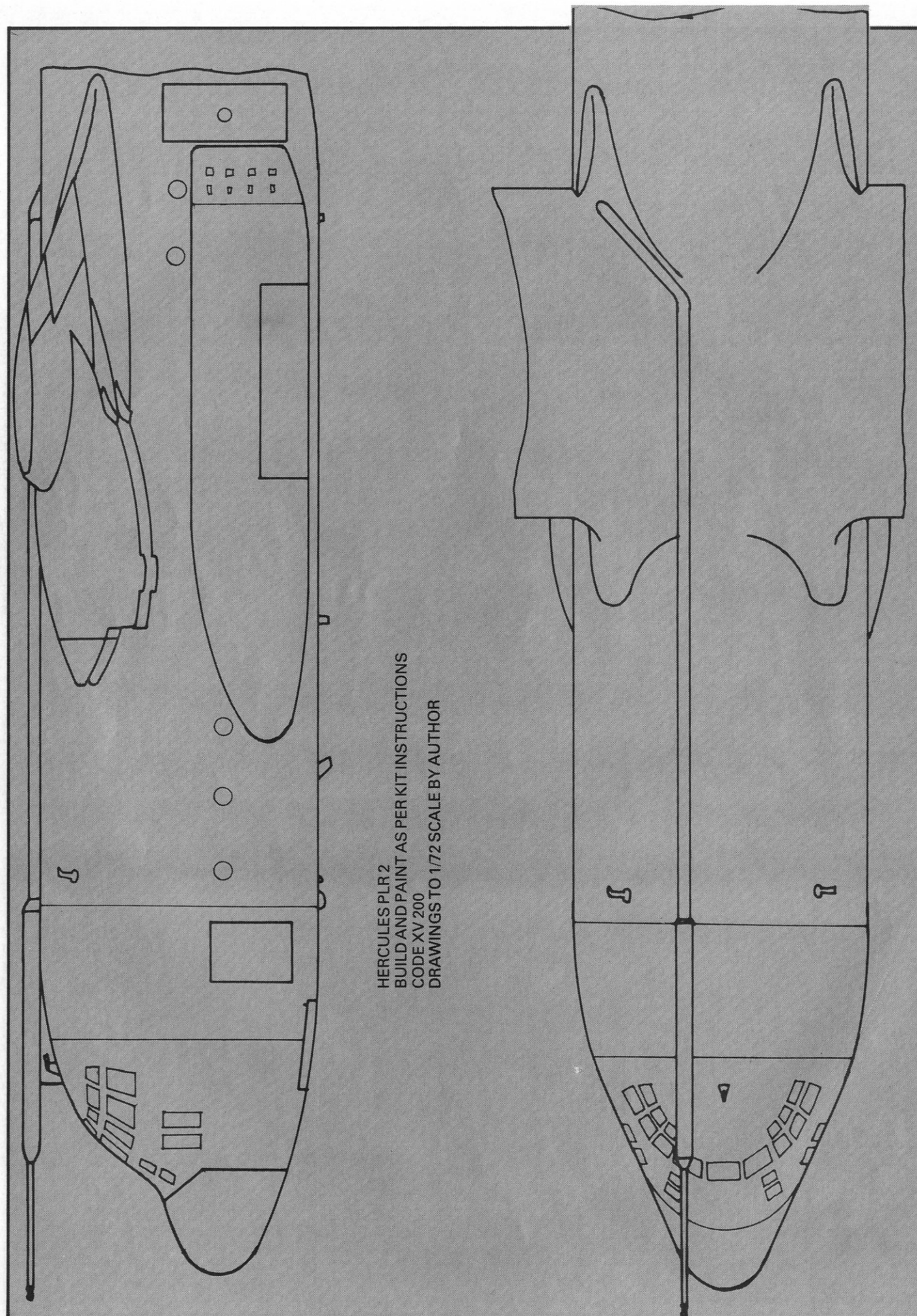
The model construction more or less follows the sequence as shown in the kit instructions. The cockpit assembly is way off the mark as regards accuracy and to be

and box in the opening, providing a floor and a split door to the freight hold. This door is hinged down the middle and opens like the door on a bus.

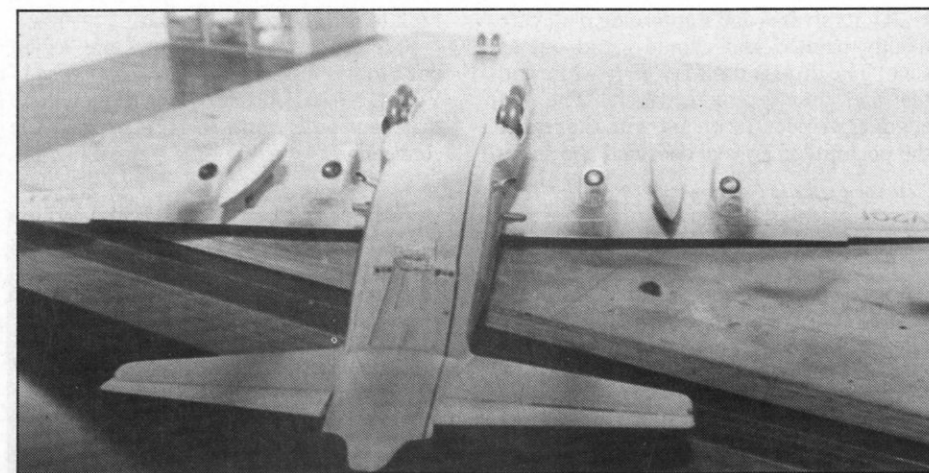
Stage two:

Fit the transparencies. As a tip for the beginner, I find it best to remove the locating strips from around the transparency and after trimming for a perfect fit attach using liquid glue applied by brush. Be careful with the transparency as this clear plastic is very brittle. In addition I very rarely use tube cement when making models, I prefer the ease of application and the cleanliness of liquid glue applied by brush. During the final clean-up, before

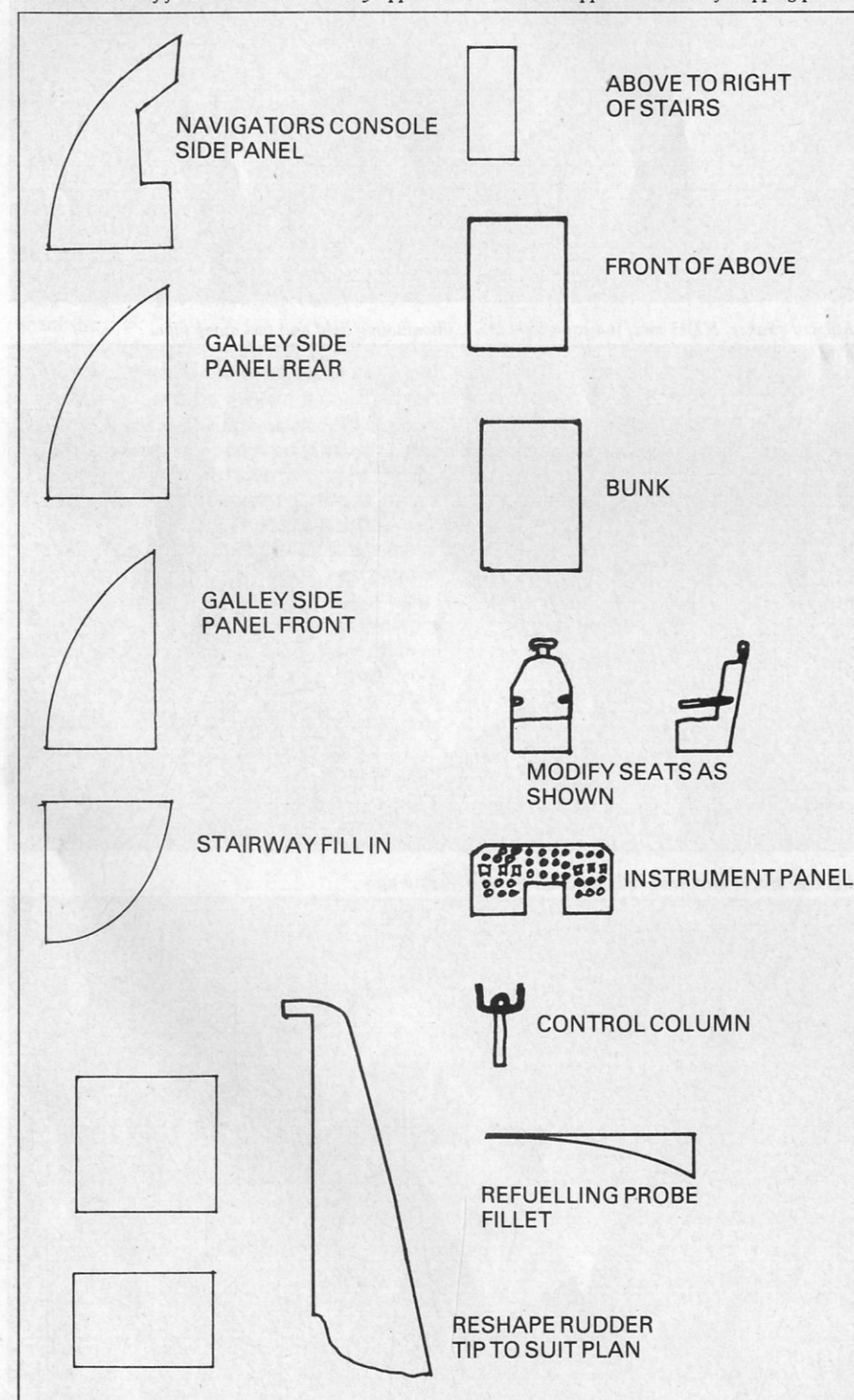




HERCULES PLR2
BUILD AND PAINT AS PER KIT INSTRUCTIONS
CODE XV 200
DRAWINGS TO 1/72 SCALE BY AUTHOR



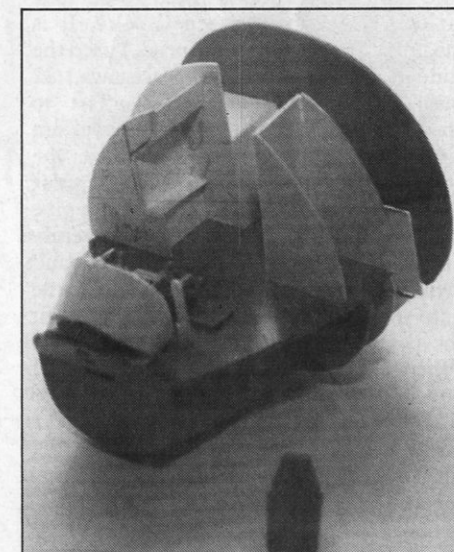
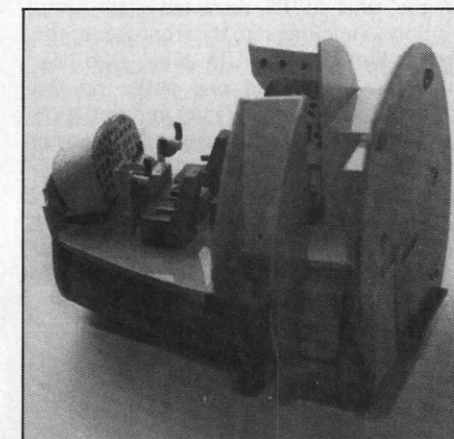
Underside view of finished model. Note dirty appearance. Guide line applied with aid of mapping pen.



painting, sand the transparencies flush with the fuselage using 1000 grit wet-and-dry used wet and finally polish back to clarity using Duraglit wadding metal polish. This gives a neater appearance to the model. As the rear doors would be cemented shut I left out the freight floor.

Stage three:

Once the fuselage is assembled, and all the sink holes and joints treated, the kit panel lines can be toned down and new ones scribed on to replace those removed. The wings, undercarriage, tail assembly etc, are built and note that the trailing edge of the rudder needs modifying to the correct shape. Do not attach the wings or tailplanes



Above: Cockpit detailing under construction. Note modified seat.

Top: Cockpit detail finished.

at this point. I found it much easier to model the refuelling probe and, if you are doing the full tanker conversion, the refuelling equipment on the back door without the wings in place. The engines and prop blades leave a lot to be desired. The blades should be of a more constant section from the middle of the blade to the tip and the nacelle needs to be of a more rounded shape. Study your reference material for further details. I have converted another Hercules back into the three-bladed shorter nacelled C130A, and the engine modifications provided me with untold problems. This is another conversion which will show you the work involved at a later date.

Stage four:

If you are only doing the probe-equipped version then skip this step. If not proceed as follows. The HDU is attached to the inside of the rear cargo ramp, the drogue deploying through the upper door. As it would be extremely difficult, but not impossible, to model the interior fittings I decided to glue the doors shut and rely on outside appearance only. The strakes, drogue unit box, light boxes etc are all made from .030 card, the shapes being transferred from the plan onto the card. The downward facing illuminating light and the fuel dump pipe are carved from thick sprue and the strengthening plates on the ramp and door are from .010 card. I modelled the drogue unit in its retracted state from Milliput, attaching it to the front face of the drogue housing with Uhu glue. Two heat exchanger inlets and one outlet on the starboard side, and one inlet and outlet on the port side are made from thick sprue carved and sanded to shape. The inlets are oval and the outlets are round. The inlet port is on its forward facing edge study the photographs for a better explanation. Drill out the ports a little and you will be surprised at the difference it makes. The inlets are painted to match the camouflage colour, the outlets being natural metal.

Stage five:

The refuelling probe is fitted to all four tanker aircraft and sixteen C Mk1. It is made from various sizes of sprue, I used the runners or parts trees from a Hasegawa 1:32 scale Sabre. Note that it is offset to starboard and whilst the probe and feed are circular, the thick support section over the cockpit is square. Note also the support fillet again from .030 card. I fitted the pipe to the fuselage before glueing, by gently heating the sprue over a candle flame and laying the pliable, but not melted, sprue onto the model surface and bending to fit the contours of the fuselage top surface. When I had achieved a satisfactory fit I attached it and used a glue and card soup to fill the small gaps remaining. Note that the probe is camouflaged but no yellow walk lines are on it and that the tip is natural metal.

Stage six:

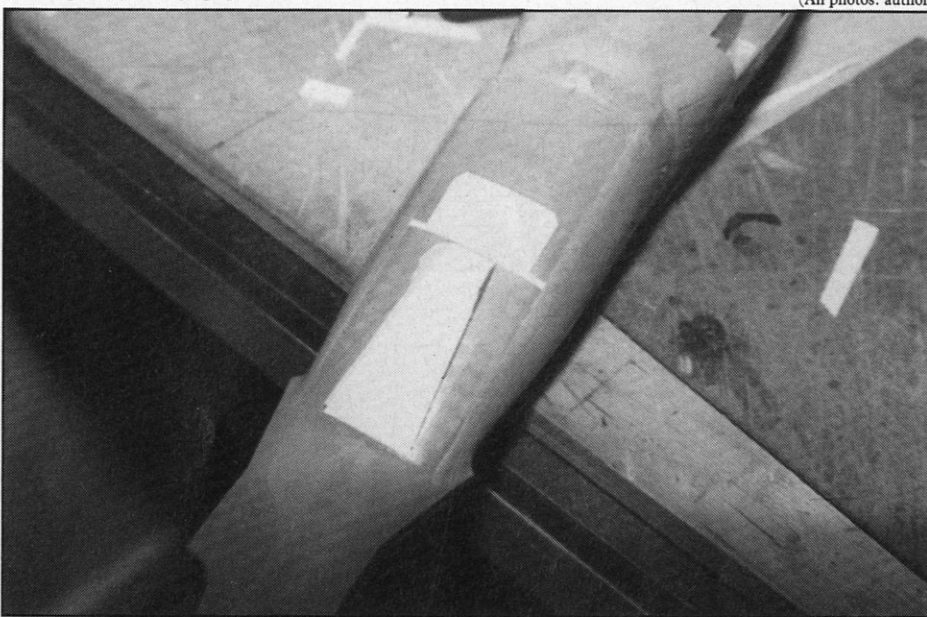
The kit is finished as per the instructions. Codes for the tankers are either XV 192, 201, 204, or 296. Codes for the probe equipped versions are, for example, XV 187, 200, 214. The underwing codes are 36in black from Modeldecalsheet 35 and the kit decal sheet. The black fuselage codes from sheet 36 and the white 18in serials from sheet 60. All these sheets are used in conjunction with the kit decal sheet for economy. The yellow walkways on the upper surfaces are applied with a mapping pen and ruler or are cut from decal sheet. The red aligning stripe on the rear of the tanker versions is applied in the same manner. The lights on the HDU are, reading from the outside in, red, amber, green. Note that although the rest of the paintwork is dirty and badly weathered the

HDU, its strakes and reinforcing plates are freshly painted and should stand out as such. The drogue itself is a dirty white and the fuel dump pipe is black. The red aligning stripe starts on line with the rear of the port undercarriage door and continues

back to the end of the aircraft.

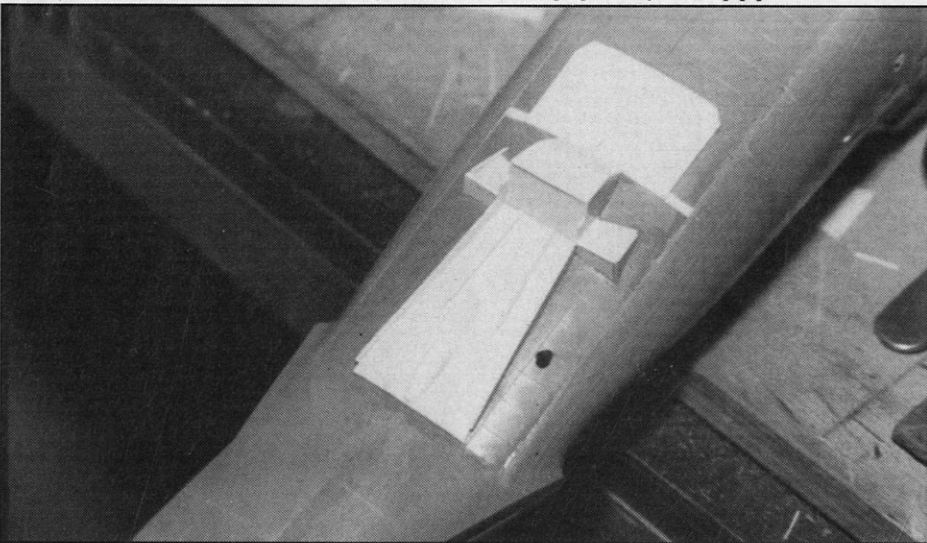
References to the Hercules are legion but I found the article in 'Air International' Vol 24, No 2 (February 83) to be more help than any other, and in fact inspired the conversion.

Close up of refuelling equipment.

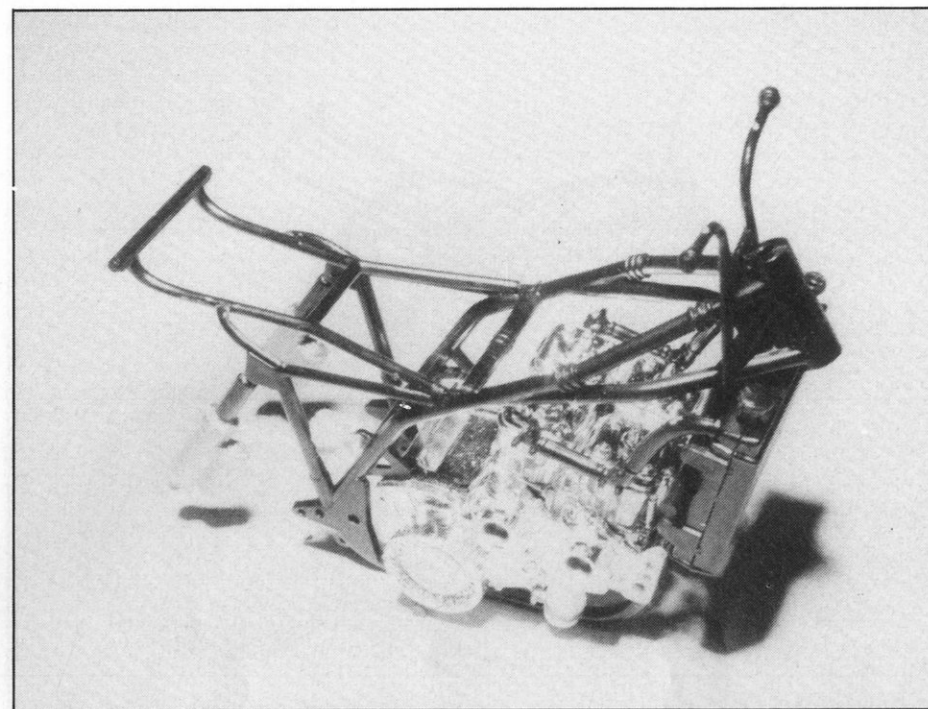
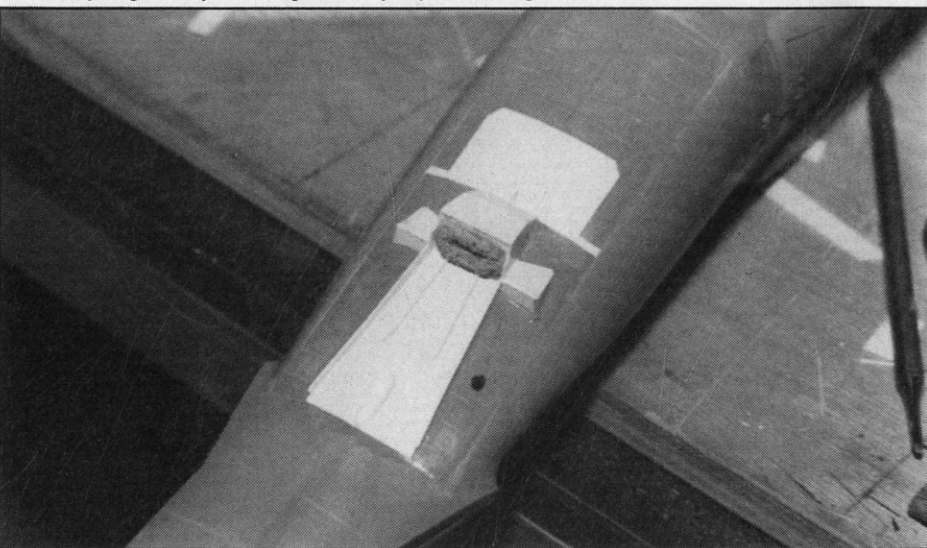


(All photos: author)

Addition of strakes, HDU unit, indicator light units, illuminating light and fuel dump pipe.



Addition of drogue unit from Milliput and before final clean-up.



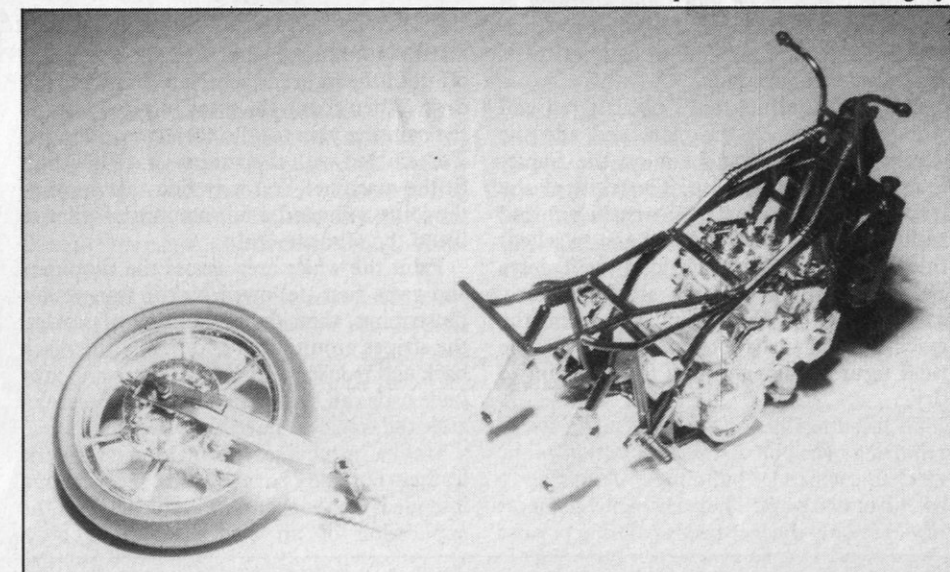
Here we see the frame assembled complete with front and rear fairing supports. Note that the cooling system and carburetors have also been fitted.

matched by a similarly complex painting plan that reflects the colourful nature of the machine.

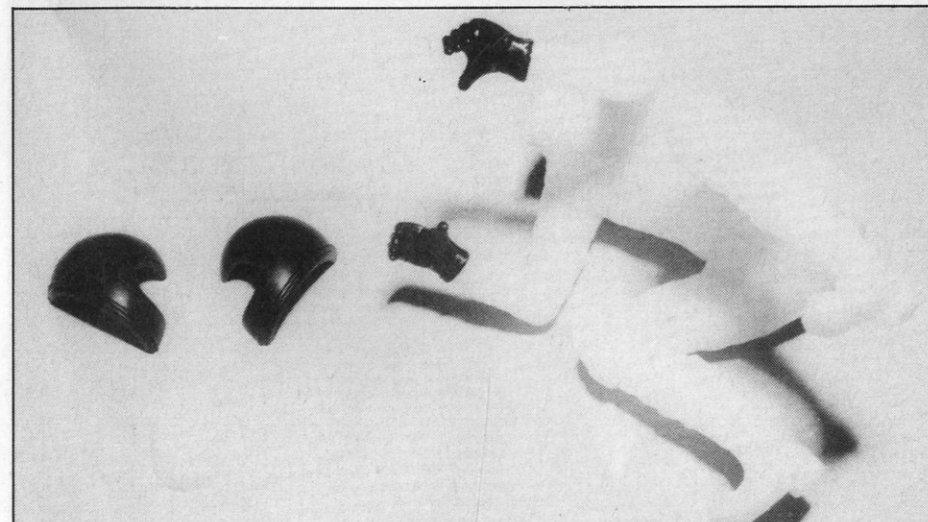
To build the model without detail painting would be a great shame, despite the fact that component parts are moulded in white, black, clear and chrome finish plastic with 'real' rubber tyres. Therefore, we first turned our attention to the painting plan to see which parts could be given a coat of colour prior to their removal from the sprues.

In several cases the instructions recommended that the frame parts are painted 'coal' black but, having had an opportunity to personally examine one of the prototypes at close quarters, we decided to leave them as supplied, the semi-gloss effect being more realistic in our view. As we were using brush applied solvent there would be little glue residue to cover either.

A point worth noting when painting small parts is to save unnecessary scraping by keeping the paint itself away from joint lines



Rear view of the frame and rear suspension and drive, ready for attachment with the aid of a spindle which passes through the rear swinging arm assembly.



The driver's assembled torso, minus face and helmet, which are seen to the left. We had to use a considerable amount of filler to correct some gaps which appeared in the leg joints and also around the waist. It is critical that the arms are positioned correctly and the painting diagram is very helpful in this respect.

Matchbox Suzuki from Page 665

and locating lugs. The scalpel or craft knife will get sufficient use removing areas of vacuum deposited chrome from the engine and suspension parts without one actually having to manufacture tasks.

Interestingly, Matchbox also suggest giving much of the chrome a coat of varnish or clear polyurethane. In some cases the reason is obvious — to retain an awkwardly positioned or vulnerable transfer — but in many instances there seemed little point and as the sparkling finish hasn't, as yet, fallen off we're not sure why this step was recommended in the first place.

Returning to the small components, paint can be applied to the handlebar grips, fluid receivers, carburetors, disc centres, brake calipers and hoses. Colours are as suggested on the plan with just a few variation as follows:

Disc centre	Compucolor 'oily steel'
Calipers	Humbrol 'steel'
Fork yoke	Humbrol 'aluminium'
Fluid reservoir caps	Humbrol dark grey

Brake push rod	Humbrol silver
Cylinder head nuts	Humbrol light grey
Chain	Humbrol 'coal' black

We painted the insides of the front and rear fairings with a mix of four parts matt black to one part dark brown and also used a little of this tone to touch up the edges of the brake discs. The rear shock absorbers (which receive no mention on the plan) were given a coat of gold with a silver cap on the side chamber. At various points during the '77 season the front shocks were also gold in colour, as were the Campagnolo wheels. So, if you are looking for a little variety and can bear to paint over all that glistening chrome, paint them grey first and then add a couple of coats of gold to finish off.

The radiator was given similar treatment to those fitted to the Tamiya Ferrari that we built last month, black being brushed into the core and then wiped over with a cloth to leave raised edges shining through.

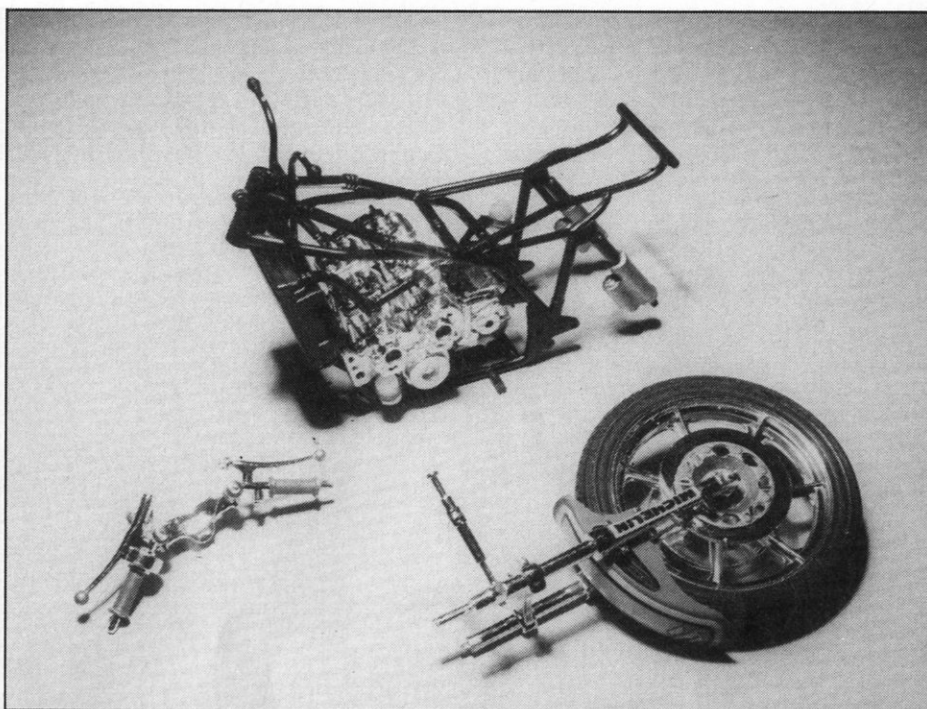
Assembly can now be commenced with the cementing together of the engine crankcase (parts 2 and 5) and the side casings (parts 7 and 19). Note that the chrome finish must be scraped away from those areas that butt together as well as from the mounting lugs that will mate up to the frame tubes and hold the engine in place. We left the fixing of the carburettors until the engine was in the frame, but glued on the cylinders and block (parts 11 and 18) as well as the flange numbered 17.

To ensure that the frame will end up square it is best to assemble the cross-tubes and side frames dry, bind them together with tape and then brush on some solvent to one set of joints so that the sides can be separated again for the insertion of the engine. When the frame is completed allow ample time for the solvent to dry before inserting the fork pivot and scrape the chrome away from the latter's mounting lugs for the brake calipers, hand grips and mudguard first. The mudguard itself must be painted and have its decal applied before fitting as this operation would be almost impossible once the bike is complete.

The seat, rear fairing and front fairing supports can now be glued and snapped in place, as can the reservoirs, footrests, gear and brake levers, and the radiator with its appropriate connections.

Make up the fuel tank, paint it red and white as shown on the plan, and add the decals before positioning it on the frame. Don't forget the filler cap! The white plastic used by Matchbox is semi-translucent and really needs painting, unlike the excellent finish of the moulded plastic in the Tamiya Ferrari kit. However, the areas are fairly small and one can break off from the machine's construction and build up the rider figure whilst awaiting for the paint to dry.

In fact the rider is almost a kit in itself, requiring every bit as much attention as the mechanic which we built up in 'Constructor' a month or two back. There are eighteen pieces in all but only the face needs painting prior to



This shot shows the other side of the chassis frame as well as the completed handlebar assembly and the front forks and hub. It is necessary to paint and apply transfers to the mudguard at this stage and care should also be taken to ensure that the steering damper is at the correct angle, as shown.

assembly (although the visor should be left off until the figure is complete and the paint dry). When fixing the arms in place refer to the painting plan for the correct positions — if assembled with the wrong stance he won't fit the machine! You may find that some of the joints will need a fair amount of filler to blend them in smoothly.

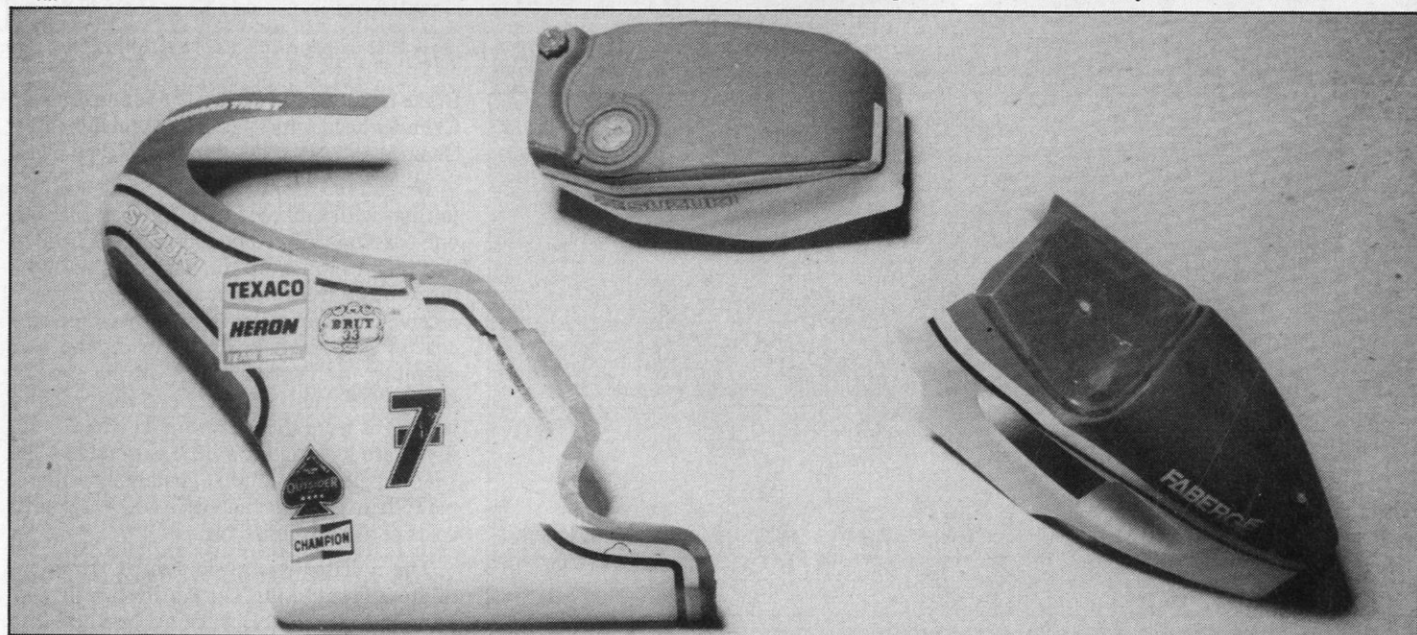
Paint the white area across the shoulders and arms first, followed by the thin yellow pinstriping, then the main areas of scarlet, the stripes around that and finally the black back and trousers. The blue gloves and grey knee pads can be touched in either before or after the transfers have been added.

Unlike mechanics' overalls, the riders' leathers normally have a slight sheen (no pun intended!) to them and we would suggest the application of an over-all coat of gloss

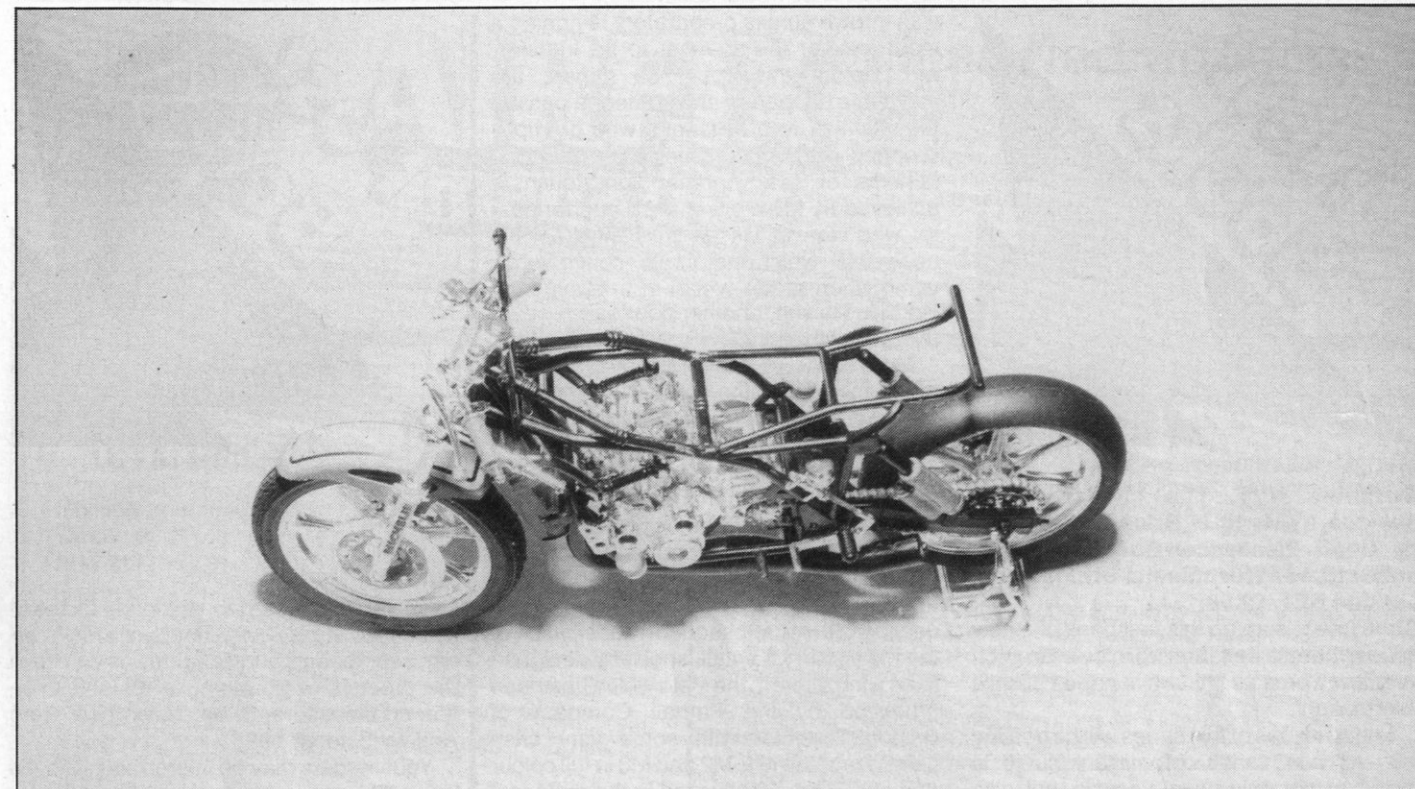
varnish, toned down slightly with a small amount of talcum powder to give the right effect.

Almost all the remainder of the bike's construction is straightforward, although it is worth mentioning that the instruments have separate clear lenses — a nice touch — and that the exhausts require great care when fitting if you don't want them to fall off the first time you move the completed model.

Thin, flexible plastic rod is provided to link up the brake reservoirs to their appropriate calipers and this should be cut slightly over length (add 2-3mm to the dimensions given in the instructions) as we found, perhaps through misrouting, that one or two were a bit tight. Secure the ends firmly with liquid solvent and add a small re-inforcing 'tack' where they run across frame tubes etc



The front and rear fairings, plus the fuel tank, with most of the decals applied. The remaining decals to be applied to the front fairings can be slid in place, once the two halves are cemented together, round the machine. The joint at the front can then be sanded and the number roundel painted on.



Viewed from above the completed chassis and running gear now only awaits the fuel tank and bodywork. We pressed the 'running in' stand into use for this shot. The lower exhausts are fitted but the upper two cannot be located until the rear fairing is in place.

to stop them from flapping around. No painting of the 'hose' is required as its grey finish is representative of the Aeroquip lines used on the prototype.

As the number panel covers the most obvious joint between the two front fairing halves, it is possible to paint and apply many of the transfers of these sections before they are glued in position. Exceptions are the

aforementioned number panel and the 'Forward Trust' advertisement which fits to the underside. Such are the angles adopted by the prototype as it leans over when cornering that these ads become clearly visible even though they can hardly be seen when the bike is upright.

With the rider, fairing and screen in place the four pieces which make up a prototypical

'warm-up' stand can be cemented together and the unit used to support the model for display. With any model of this complexity it is worth keeping it in a glass case or clear plastic display dome. For some reason it acts like a magnet for every particle of dust that comes within its proximity.

Fred Game

Complete with bodywork and a reasonable representation of Barry Sheene the motorcycle is now complete. Unfortunately, we seem to have forgotten to fit one of the front brake calipers and it rather looks as if the windscreen has sprung away slightly from the top of the fairing under the heat of the photographic lights.



New Books

Outlines; NV1. The M-Class Submarines, by Martin H. Brice, with artwork by Geoff Pleasance, Outline Publications Ltd, 137 Westminster Bridge Road, London SE1, £2.50.

If one has to sum up this first book of a new series, it would be tempting to do so in such very few words as 'thirty-two pages of solid information'.

Future issues of this series will be dealing with a wide variety of military subjects including not only naval vessels, but also field weapons, vehicles, uniforms and aviation, but if that dealing with the M-Class submarines sets the standard of future books, then they will very quickly become eagerly sought by military historians.

Inevitably there will be comparisons with the *Profile* series but although there is a little less coloured illustration in the *Outline* booklets, in the reviewer's opinion, they do the job slightly better for a modest sum with their card covers, sturdy paper, pleasing photograph reproduction and choice of a bold type face.

That the M-Class submarines have been chosen for the first of the subjects is interesting, particularly since some would claim that these were ill-fated vessels, but be that as it may, Martin Brice describes their story in a style that never fails to hold the reader, as might be expected from a naval historian of his standing.

The work opens with a comparison of the ideal of the lurking submarine as a maritime killer, with the problems which are always associated with the design of such vessels, and he goes on to weigh up the costs of the differing forms of armament available. In this case the result of such deliberations was the fitting of M1 with a twelve-inch gun capable of firing an 850-lb shell for a maximum range of 32,500 yards, this being in 1919, only ten years after the completion of such Dreadnaughts as the *Agamemnon*, a type of vessel with which twelve-inch armament was more readily associated at the time.

Although the *Outline* is a serious study of these submarines, the tale is not told without a few of those amusing events which are inseparable from service life. One which captures the imagination is that of the hundredweight spanner on board M2 but required by M1. At twelve knots and separated by only thirty feet, the two vessels kept station while a heaving line

was thrown across preparatory to rigging a stout one for the spanner to be transferred. Before this could be rigged, the inevitable happened and someone passed the vital tool to a colleague who promptly dropped the thing into nine hundred fathoms of sea! Another light touch is achieved by the story of M2's quartermaster who wore a biscuit tin slung from his neck into which he could conveniently vomit when at the wheel in a heavy sea! Horatio Nelson, another poor sailor, never thought of that one!

More seriously, Martin Brice takes a look at the mystery of the manner in which the M1 was finally lost in a collision off Start Point on 12 November, 1925, although the search was not abandoned until the beginning of the following month.

However, it would be wrong to assume that this book is only for readers interested in maritime history. The aviation enthusiast too is catered for by that part of the book dealing with the subsequent modification of the M2 to carry a small, specially-designed fixed wing aircraft, the Peto which had been produced by the Parnall Company of Bristol. Together with some very crisp paintings of the M1, M2 and M3 in full colour (the shades are discussed in the main text also) there is a pair of interesting profile views of this little machine showing the modifications to floats and engine, in addition to a change of fin shape, which have hitherto received scant description.

With this substitution for the heavy gun associated with the Class up to then, M2 entered her final phase which was to win her a tragic place in naval history. Just what happened to achieve this and the manner of the accident is discussed in some detail in this book which comes relatively up to date with a picture of the unfortunate vessel taken as recently as 1979 when her whereabouts was rediscovered still on the bottom, off Portland, after some half a century.

The photographs used to illustrate this first *Outline* are largely from the RN Submarine Museum and are happily reproduced to a fairly generous size compared with some publications, the five final photographs showing other giant submarines that will be dealt with later in the *Outline* series.

Concluding pages of this work are taken up with useful outline histories of the four M-Class vessels plus a page of technical details and a break-down of individual features.

Altogether, this book gives all the basic information one is likely to want on these subs, all that is except for a point which has long fascinated me. Why in a photograph in my collection does M2 sport a Fairey III variant on her deck? It was far too large to go into the diminutive hangar!

A comprehensive bibliography is included for further reading and the list of future titles indicates that the next *Outline* book in the naval series will be dealing with landing craft. It seems clear that few of these books will stay on booksellers' shelves long enough to gather much dust.

PC.

Post Box

Dinosaur Models

I was very interested to see in the October edition of *Airfix Magazine* an article on dinosaur models and dioramas as we are in the process of preparing a major exhibition on dinosaurs, to be shown here from April to October 1984.

Your readers may be interested in this, as in addition to a really exciting range of skeletons, footprints, dinosaur eggs etc, we are also going to feature many dinosaur models from major museums and professional modellers throughout Britain. This will be the largest collection of museum dinosaur models ever shown in this country. We are also going to feature 'The Popular Dinosaur' with material from films such as 'One Million Years B.C.' and the latest dinosaurs such as David Bellamy's *Brontosaurus*, cartoons, model kits and cornflake give aways.

**Barbara Pyrah
Keeper of Geology
Yorkshire Museum.**

D Day

Welcome to the new editor. Perhaps you can complete the Mulberry Harbour series: it has taken longer to describe than to design and build!

The illustration facing page 606 in the October issue showing Montgomery with Col. Humphrey, the Beach Group Commander, brings back memories. I was standing within a couple of yards at the time. Your time table of D-Day isn't very flattering — the 0700 hours states that the British Army 'came ashore'. I can assure you it wasn't as easy as that.

Changing the subject, can you tell me if you have ever described Tower Bridge with a view to modellers reproducing its inner workings? Another Thames installation of great interest is the Barrier in Woolwich Reach: that would make an interesting model.

**J. Ward
Swindon, Wiltshire.**

ED's NOTE: As far as I can remember we haven't ever done this, but it's an interesting idea. Are there perhaps any modellers who would be interested in having a go? We'd be delighted to hear from them.



The publishers point out to readers that, while very care is taken to check the bona fide nature of all advertisements, they cannot accept any responsibility for disputes which might arise.

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LCT got in touch with me. He lived at Middleton, West Sussex and we enjoyed a very pleasant few hours together — with our long-suffering wives!

**J. D. Smale
Shoreham-by-Sea
Sussex.**

I was interested to read Ray Rimell's article on dinosaur Modelling in your October issue. The shots of finished models were superb and certainly cast a new light on what has tended to be a rather neglected area of modelling. In fact, I can't remember the last time I read a piece in *AIRFIX MAGAZINE* on the subject.

Are any other features on Dinosaurs planned? I for one could do with some more hints and tips — especially as regards painting techniques.

**R. Cox
Orpington
Kent.**

ED's NOTE: Yes, we do intend to feature some more dinosaur modelling pieces — possibly at some stage early next year.

Pen Pal

MILAN BILEK is a keen collector of 1:72 scale World War II models and would like to correspond with anybody who would like to exchange models and modelling information. His address is:

**257 63 Trhovy Stepanov 22
okr. Benesov
CSSR.**

almost probably, the stern half towed the bows back to the U.K. This happened to a number of LCTs, in particular the Mark IVs which were a bit fragile. However, around 1960 my family and I were exploring the upper reaches of Chichester Harbour close by Birdham Pool and we came across the bows of LCT 555. They had obviously been there for years.

A few years ago I had a letter published in the *Chichester Observer* about naval relics which were lying around the harbour in the late 1940s and 1950s and the skipper of

LCT

My reason for writing to you is connected with *Constructor* in the October issue.

On page iv you depict a photograph of LCI (L) beached at Arromanches and in the background is LCT 555. This particular LCT has an interesting story as it was one of those craft which suffered severely when the storms broke on the beaches immediately after the initial landings.

What happened afterwards is not known but it seems likely that she broke in two and,

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